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Economic Commission for Europe

Conference of European Statisticians
Sixty-sixth plenary session
Geneva, 18-20 June 2018
Item 11 (a) of the provisional agenda
Programme of work of the Statistics subprogramme of the United Nations Economic Commission for Europe
Report on the work of the Conference of European Statisticians, its Bureau and Teams of Specialists

Implementation of the United Nations Economic Commission for Europe Statistical Programme 2017

Note by the secretariat

Addendum

Report of the Workshop on Implementing the Common Statistical Production Architecture

Summary

The document presents the key outcomes of the on Workshop on Implementing the Common Statistical Production Architecture which took place from 3 to 5 July 2017 in Wiesbaden, Germany. The meeting was organized following a decision of the Conference of European Statisticians in 2012.

The report is submitted to the Conference of European Statisticians for information.

GE.18-07068(E)

1807068

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I. Attendance

1. The Joint UNECE / Eurostat Workshop on Implementing the Common Statistical Production Architecture: 'CSPA for Digital Transformation' was held in Wiesbaden, Germany, from 3 to 5 July 2017. The workshop was attended by representatives of the statistical offices of Albania, Austria, Bulgaria, Cambodia, Canada, Finland, France, Germany, Israel, Italy, Latvia, Lithuania, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russian Federation, Serbia, Slovenia, South Africa, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, and United Kingdom of Great Britain and Northern Ireland as well as by representatives of Eurostat, United Nations Interim Administration Mission in Kosovo (UNMIK), Eurasian Economic Commission, and the Organization for Economic Cooperation and Development (OECD).

II. Organization of the meeting

2. Mr. R. Mclellan from Statistics Canada was elected chair of the Workshop. Ms. T. Lalor, Chief of the Statistical Management and Modernisation unit of the UNECE Statistical Division, welcomed participants and thanked Destatis for kindly hosting the event. The welcome remarks were delivered by Dieter Sarreither, Director General of Destatis. He stressed the importance of data architecture, standards and CSPA as a way forward in innovating the statistical production.

3. Ms. M. Nagy-Rothengass, head of Data and Metadata Services and Standardisation, gave the keynote speech. She spoke about how the CSPA activities fit into the digital transformation in the European Statistical System. The availability of new data sources, increasing data economy and data driven applications lead to the need for efficient statistical data eco systems and transformation of organisations.

4. The agenda included plenary and parallel presentations and discussion rounds. A large part of the agenda was dedicated to a hackathon along three streams. The parallel sessions and the hackathon had the following three groups: a) Investors, b) Designers and c) Assemblers. A description of the groups and the outcomes of these activities are documented in the annex:

(a) Plenary presentations;

(b) Parallel presentations;

(c) Challenges and Hackathon;

(d) Overcoming blockers and barriers to CSPA;

(e) The way forward.

5. All background documents and presentations for the workshop are available at https://statswiki.unece.org/x/OwHsBw.

III. Summary of the discussion and main conclusions reached at the meeting

7. Key items identified for future work included:

- Communicating CSPA to different audiences;
- Creating a more active CSPA community;
- Improving the tools to support reuse and sharing;

- Assisting organisations to understand what decisions need to made;
- Improving description of CSPA compliance;
- Creating guidance on archetypes and CSPA adapters;
- Engage with methodologists regarding the core logic for CSPA services.

Annex

Summary of discussions on substantive topics

A. Plenary Session

1. The national experiences in implementing CSPA were presented in a session chaired by Neville de Mendonca (ONS, United Kingdom). It included the following presentations:

- Statistics Netherlands Application Strategy – Matjaz Jug (Statistics Netherlands);
- ESS Statistical Production Reference Architecture (SPRA) – Jean-Marc Museux (Eurostat);
- Evolution of the .Stat architecture using CSPA – David Barrraclough (OECD).

2. Other plenary presentations and sessions included the following:

- Service-oriented architecture: The wider focus – Lucas Quensel-von Kalben (Destatis, Germany);
- Modernisation Maturity Model – Thérèse Lalor (UNECE);
- Exploring the CSPA roles – Jakob Engdahl (Statistics Sweden).

3. An interactive session on overcoming blockers and barriers to CSPA was chaired by Lucas Quensel von Kalben (DESTATIS), while a concluding plenary session, chaired by Robert McLellan, was dedicated to determining the way forward.

B. Parallel Sessions

4. Based upon the roles involved in implementing CSPA in the statistical production process, three streams were identified. Depending on their role and area of interest, participants joined one of the three streams.

5. The Investor stream had a strategic focus. It discussed issues such as why CSPA should be used, how organisations can find CSPA services that are available to share and how they can become CSPA compliant. The Investors stream included the following presentations:

- When is collaboration better than autonomy? Rosemary McGrath (Statistics New Zealand);
- CSPA Catalogue Pierre Peyronnel (Eurostat);
- A different angle: Validation as a Business Case for CSPA/SERV Volker Weichert (Destatis, Germany).

6. The Designer stream was at the conceptual level and dealt with how services are designed, including the methods used in the services and the information flows. The Designers group consisted of the following presentations:

- Methodology Architecture: a problem statement Joni Karanka (ONS, United Kingdom);
- Information Flows in CSPA Eva Holm (Statistics Sweden);
- Reuse - from theory to reality. Tomaž Speh (Statistical Office of the Republic of Slovenia) & Joni Karanka (ONS, United Kingdom);

- Using a Logical Information Model to create services. Robert McLellan (Statistics Canada).

7. The Assemblers stream had the following presentations:

- Design: The three archetypes of integration in the statistical context – Ronald Ossendrijver (Statistics Netherlands) & Jean-Marc Museux (Eurostat);
- Design and Build: Introduction to CSPA Modules – Trygve Falch (Statistics Norway) & Romain Tailhurat (INSEE, France);
- Assemble Demonstrations: Data Collection Platform – Neville de Mendonca (ONS, United Kingdom);
- Assemble Demonstrations: Containerisation - helping with CSPA reuse – Romain Tailhurat (INSEE, France).

C. Challenges and Hackathon Session

8. After prioritising the challenges, teams were created within each stream to work on the selected challenges. At several instances, the groups met plenary within and between groups to report on progress, to coordinate overlap and to get input from other teams. The results of the Hackathon were presented in a plenary session chaired by Tomaž Speh (Statistical Office of the Republic of Slovenia). The following challenges were discussed and concrete responses were prepared:

1. **Investors:**

- How to communicate with Investors?
- How to notify the community about opportunities and updates?
- What services should be provided to the community?
- What decisions does an Investor need to make?

2. **Designers:**

- How does Enterprise Architecture fit with CSPA?
- What would a CSPA design cookbook look like?
- What does it mean to be CSPA compliant?
- What is the role of standards in CSPA?
- How to optimise interoperability and flexibility?

3. **Assemblers:**

- What are example archetypes?
- What are the relevant CSPA adapters and how to use them?
- How to make use of statistical services outside NSOs?
- What can be the role of open source?
- What are the minimum requirements for making services shareable?

D. Overcoming blockers and barriers to CSPA

9. Based on the group discussions, representatives formulated key issues that have prevented from developing more CSPA services. In an interactive voting procedure, the main reasons were determined:

- Lack of sponsorship is widely perceived as the main reason why there are so few CSPA services;
- What it means to be CSPA compliant was unclear to a large part of the participants;
- NSOs are not willing or not able to produce more services. Lack of support, especially at the mid-level management is of concern;
- Lack of funds and resources for the development of example services was seen an important reason for having only few services available;
- Another issue was that many people in statistical organisations are not aware of CSPA. One reason for this might be is that the NSOs do not have a clear CSPA focal point who is responsible for promotion within the office;
- Return on investment, the perceived burden, and the lack of an added value were perceived as the main reasons for not making a service CSPA compliant and for not making it available in the catalogue;
- Allocating more funds towards CSPA development and organising boot-camps to develop reusable services was seen as an effective way to increase the availability of services;
- Beside lack of knowledge, integration is still complex for most NSOs and dependencies are often perceived as a blockage to using services developed by others.

E. The way forward

10. The workshop concluded with a panel session where panellists and other participants determined what should be delivered within next year by the NSOs in the CSPA community. These were formulated in terms of 'in one year we want to have':

- Finalised the outputs of hackathons and made them accessible;
- Some reusable services that are used by multiple NSOs (e.g. a web scraping service);
- Each agency provided and used at least one service;
- A living community for each service in the catalogue;
- Our material used and made accessible (catalogue);
- More reuse of ESSnet services, including beyond ESS community;
- Agencies provided a list of candidate services (others can make them reusable);
- Included in the catalogue potential CSPA services (even if not yet compliant) and include a function to enter demand for certain unavailable services;
- User ratings, comments and implementation experiences section in the catalogue for each item;

- Analysed failures of service reuse, shared lessons learned;
- Activated a 'notification' function when updates are available from the catalogue;
- Added support for sharing packages;
- Started to define what support and maintainability looks like;
- 'Solved' the support issue using open source approach;
- A methodologist delivered a story with core logic;
- Created a methodology library/architecture;
- Organized a collaborative boot camp to develop new service;
- The 2018 CSPA-World Workshop.

11. Presentations and hackathon outputs from the workshop are available at: https://statswiki.unece.org/x/OwHsBw.

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Addendum

Report of the Joint OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA)

Summary

The third Joint OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA) was held on 21-22 February 2018 in Geneva. The seminar was organised following a decision of the Conference of European Statisticians in June 2017.

The report is submitted to the Conference of European Statisticians for information.

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I. Introduction

1. The Joint OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA) was held in Geneva on 21-22 February 2017. It was jointly organized with the Organisation for Economic Cooperation and Development (OECD) and an organising committee with members from Australia, Canada, Kyrgyzstan, the Netherlands, the Russian Federation, Sweden and Statistical Office of the European Union (Eurostat).

2. Experts from the following countries attended the meeting: Argentina, Armenia, Australia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Canada, Colombia, Costa Rica, Denmark, Estonia, Finland, Georgia, Germany, Greece, Hungary, Ireland, Japan, Kazakhstan, Kyrgyzstan, Lithuania, Netherlands, Norway, Mexico, Mongolia, Republic of Moldova, Republic of Korea, Russian Federation, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom and Uzbekistan.

3. Representatives of the United Nations Statistics Division (UNSD), the United Nations Environment Programme (UNEP), International Labour Organization (ILO), World Bank, European Commission – Eurostat, European Environment Agency (EEA), Organisation for Economic Cooperation and Development (OECD), Asia Development Bank and the International Union for Conservation of Nature (IUCN).

4. The non-governmental organizations Cadaster Institute, Regional Environmental Centre for Central Asia (CAREC) and Zoi Environment Network were also represented at the meeting.

II. Organization of the seminar

5. The Seminar elected Mr. Gerard J. Eding (Statistics Netherlands) as its Chair. He will also serve as Chair of the Organising Committee of the Joint OECD/UNECE Seminars.

6. The participants adopted the agenda of the seminar.

7. The following substantive topics were discussed at the seminar:

   a) Session 1: National SEEA implementation plans;

   b) Session 2: Guidelines for SEEA implementation and new ways to generate data;

   c) Session 3: Coordination of capacity building activities;

   d) Session 4: Policy applications of SEEA;

   e) Session 5: Conclusions and recommendations for further work.

8. Session Chairs were Mr. Pierre-Alain Pionnier (OECD, session 1), Ms. Jacky Hodges (Australian Bureau of Statistics, session 2), Ms. Viveka Palm (Statistics Sweden, session 3), Mr. Gerard Eding (Statistics Netherlands, session 4) and Mr. Kevin Roberts (Statistics Canada, session 5).

III. Summary of the discussion and main conclusions reached at the meeting

A. Session 1: National SEEA implementation plans

9. The objectives of this session were to give an overview on the current status of SEEA implementation in the UNECE region and to identify the main implementation challenges. Furthermore, the session aimed to give recommendations to countries to establish a national implementation plan and to discuss possible solutions on how to overcome related obstacles.

10. OECD presented the status of SEEA implementation in the region based on the results of the *UNCEEA Global Assessment of Environmental-Economic Accounting and Supporting Statistics*, which was carried out in 2017. One of the main conclusions of the presentation was that reaching the global SEEA targets 2020 (100 countries with ongoing programs on SEEA Central Framework and 50 countries initiating work on SEEA Experimental Ecosystem Accounting) is still challenging. It was also concluded that technical assistance provided to countries does not always materialise in the form of implementation plans. Lack of regular funding is often impeding SEEA implementation.

11. UNSD informed about the *SEEA implementation guide*[1], which provides a step-by-step guidance for the preparation of national SEEA implementation plans. The implementation guide proposes a stepwise approach, includes a diagnostic tool and recommends a structure for national implementation plans.

12. In a panel, experts from Australia, Armenia, Azerbaijan, Belarus and Mongolia discussed the main barriers for SEEA implementation, lessons learned from establishing national implementation plans, and priorities of work by 2020 and beyond.

13. The lack of underlying data was mentioned as one of the main obstacles by the four panellists representing EECCA countries. Interventions from the floor showed that this issue faced by environmental-economic accountants is very similar to the one faced by national accountants. The available data sources are rarely fit for purpose. Data first needs to be harmonised, which requires patience and sometimes creativity. Compiling environmental-economic accounts (or national accounts) from basic statistics was seen in analogy to assembling a puzzle.

14. Australia mentioned that even as a country with long experience in environmental-economic accounting it still has difficulties to find an audience among policy makers and in treasury departments.

Conclusions

15. According to the UNCEEA Global Assessment, lack of regular funding of environmental-economic accounting activities is one of the main obstacles to SEEA implementation. Participants also stressed that limited access to and the quality of underlying data are considerable problems for many NSOs. Strategic implementation plans, institutional mechanisms to bring together stakeholders (users and producers) and effective communication towards policy makers, researchers, users and journalists have a key role to ensure that SEEA is mainstreamed in the statistical production process and in the policy decision making process. Leadership by NSOs and the Heads of NSOs is crucial for the implementation of SEEA. Participants of the seminar recommended:

[1] SEEA implementation guide : https://unstats.un.org/unsd/envaccounting/ceea/meetings/ninth_meeting/UNCEEA-9-6d.pdf

a) National Chief Statisticians need to ensure that all stakeholders (from data providers to final users) are involved in the development of SEEA implementation plans, so that funding, access to data and policy relevance are secured;

b) Countries with less experience in environmental-economic accounting need to (1) be pragmatic (i.e. start with the easiest SEEA modules or those for which data availability is (relatively) good), learn by doing and release the results on an experimental basis to demonstrate the relevance of the work; and (2) take advantage of the momentum created by the Paris agreement and SDGs to ensure that funding and technical assistance is directed towards development of data that can be integrated with economic data using the SEEA framework;

c) Future seminars could further illustrate the usefulness of environmental-economic accounts for economic and environmental policies.

16. The SEEA implementation guide provides a good start to prepare national implementation plans. Countries are encouraged to identify existing national initiatives (e.g. SDG, climate change reporting, BIOFIN, etc.) which can use SEEA and the existing data sources to compile the accounts. There is a need to connect with the owners of source data to make them aware of the usefulness and importance of statistical standards, classifications and identifiers. New sources for populating SEEA accounting tables like satellite imagery or sensor data provide new options to answer policy questions, but expertise is needed to manipulate these data and bring them in line with statistical standards and classifications.

B. Session 2: Guidelines for SEEA implementation and new ways to generate data

17. The objectives of the session were to update participants on available technical guiding material and to present new and emerging ways of producing data for SEEA.

18. UNSD gave a presentation on internationally available resources for SEEA implementation, which include methodological documents, an e-learning platform, technical notes and technical recommendations in support of SEEA-EEA. The newly established SEEA website[2] provides the links to all these documents.

19. Eurostat informed about European resources for SEEA implementation, including maintaining communities of practicioners, handbooks and practical guides for the most relevant European accounts, training courses, compilation tools (such as the builder for energy flow accounts) and different types of technical assistance. These resources are available on the methodology website of Eurostat[3].

20. Mongolia presented its work on physical energy flow accounts and environmental taxes, which partly uses big data from electricity and heat distributors to fill information gaps.

21. Another example was given by Moldova on the experimental calculation of air emission accounts. The presentation showed how information gaps can be overcome by combining different data sources and developing a specific national approach to produce time series for this account.

22. At a panel, experts from Moldova, Mongolia, Eurostat, OECD, UNSD and an international consultant discussed restrictions and possible solutions for the use of data not originating from sample surveys (such as administrative data, registers or big data).

[2] https://seea.un.org/

[3] http://ec.europa.eu/eurostat/web/environment/methodology

23. The panel agreed that not one size fits all and bringing the relevant people together is the first step for using the data. NSOs should not be afraid of using estimates and should publish them. This will generate interest and may lead to better available data in the long-term. Also the reduced reporting burden was used as an argument to recycle available administrative data. The major problems mentioned by the panellists are that the content of these data sources does not always match the statistical needs and that they often are not fully accessible. Compilers of environmental-economic accounts who are using this kind of data need specific subject matter knowledge to convert these data into statistics and accounts.

24. The panel saw a big potential in the use of big data for ecosystem accounts.

Conclusions

25. The discussions of the panel and from the audience were concluded by the session chair as follows:

a) Frameworks, general guidelines and case examples are important and useful, but the data sources used in each country can be different, depending on actual data availability;

b) Compilers of accounts need to be flexible and understand the country context;

c) NSOs should promote the use of statistical standards, classifications and identifiers for administrative data;

d) Innovations like satellite imagery and the use of sensor data provide new options to answer policy questions, but expertise is needed to convert these data into official statistics.

C. Session 3: Coordination of capacity building activities

26. The aim of this session was to contribute to the coordination of capacity building activities carried out by international organisations and National Statistical Offices of some countries.

27. UNSD gave an overview on capacity building activities as coordinated under the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA). Capacity building is part of the UNCEEA work programme and coordinated by Statistics South Africa. One important outcome of this work are the results of an international coordination survey, which was carried out in June 2017 among international organizations. In addition UNCEEA is involved in the further development of compilation guidelines, e-learning tools, organisation of workshops and trainings in cooperation with the Regional Commissions and others, and projects aimed to build capacity for SEEA.

28. Statistics Canada presented the work program of the UNCEEA Working Group on Coordination. Three priorities have been identified for the 2018 workplan: 1) Creation and maintenance of a super calendar of SEEA-related events on the UNSD website; 2) Making SEEA training materials readily available, and where necessary, developing a quality assurance process to ensure that these materials are coherent with SEEA methodologies and concepts; and 3) Ensuring SEEA presence in relevant reporting initiatives such as on climate change and the SDG indicators.

29. At a panel providers and receivers of technical assistance from Kazakhstan, Kyrgyzstan, Mexico, the Netherlands and Turkey discussed their experiences and lessons learned. The discussants concluded that successful and sustainable capacity development is

usually the result of (a) political will and (b) sustained engagement and projects between those who provide technical assistance and those who receive it.

Conclusions

30. The identified success factors for capacity development are:

a) Extensive training of staff.

b) Driving forces such as international requirements (e.g. accession to OECD and EU, data collection, etc.).

c) Involvement of ministries and users in SEEA. This makes SEEA well-known, creates curiosity and interest to continue statistical development and in turn generates support and funding.

d) Courageous management is also a success factor. It is important to involve sufficient staff for a resilient working environment. A co-operation has to be established between environmental-economic accountants, environment statisticians, national accountants and with line ministries.

e) Cooperation is important between organisations that 'own' relevant source data and organizations that have the responsibility for compiling SEEA accounts. Also close cooperation between relevant area specialists within the statistical office is essential.

31. The coordination of work between the international organisations is important to avoid duplication of work and ensure synergies. One objective of future seminars could be to find various collaboration partners for capacity development activities.

D. Session 4: Policy applications of SEEA

32. The session on applications of SEEA is a follow-up to a similar session of the 2016 seminar. Its goal was to give some good examples on the policy uses of SEEA. The session also discussed communication strategies in using the SEEA.

33. Presentation of national examples from Costa Rica, Denmark, the Netherlands, the Russian Federation, Sweden and the United Kingdom were given. Australia presented the UNCEEA communication strategy for the implementation of SEEA and the Word Bank informed about the main outcomes of the 2016 and 2017 Fora on Natural Capital Accounting for better policy.

Conclusions

34. Participants welcomed the discussion on policy applications of SEEA. Showing countries' experiences is useful and should continue in the future.

E. Session 5: Conclusions and recommendations for further work

35. The final session concluded the seminar and identified follow-up actions.

36. UNECE presented the results of a survey on the planning of future seminars which was carried out among seminar participants during the first 1.5 seminar days. The results were the basis for planning of future seminars.

37. Participants recommended to continue the organisation of "Joint OECD/UNECE Seminars on SEEA implementation" on an annual basis. The seminar should last for two

days and focus on strategic issues of interest for all countries in the region. Proposed topics for the next seminar are:

a) Using new techniques and data sources for compiling SEEA accounts;

b) Communication strategies and policy applications;

c) Challenges related to the implementation of selected accounts, such as air emission accounts, energy accounts, water accounts, environmental taxes and subsidies, and environmental protection expenditure accounts.

d) Coordination of work in the region.

38. Participants also recommended that future seminars will be informed about the revision process of the SEEA Experimental Ecosystem Accounting and other related developments.

39. Technical workshops should be organised back-to-back with the seminar where discussions could go more in-depth on a particular selected topic.

40. A short document[4] with the conclusions mentioned in the substantive sessions of this report was adopted by the participants at the end of the seminar.

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[4] http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.33/2018/mtg2/SEEA2018_Short_Report_v27022018.pdf

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Addendum

Report of the Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality

Summary

The document presents the key outcomes of the the Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality which took place from 20 to 22 September 2017 in Skopje. The work session was organized following a decision of the CES in June 2017.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The Work Session was attended by representatives of ministries and national statistical offices of Australia, Austria, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Finland, France, Germany, Hungary, Italy, Japan, Lithuania, Mexico, Montenegro, Netherlands, New Zealand, Norway, Romania, Russian Federation, Serbia, Slovenia, Sweden, the former Yugoslav Republic of Macedonia, Turkey, United Kingdom of Great Britain and Northern Ireland, United States of America as well as by representatives from the European Central Bank, Eurostat, and UNECE. Participants from numerous universities and institutes attended the work session at the invitation of the UNECE secretariat.

II. Organization of the meeting

2. Mr. Apostol Simovski, Acting Director General of State Statistical Office, the former Yugoslav Republic of Macedonia, opened the workshop and welcomed the participants. Peter-Paul de Wolf (Netherlands) and Eric Schulte Nordholt (Netherlands) were elected as co-chairs of the Work Session.

3. The agenda of the work session consisted of the following substantive topics:

- Utility and disclosure risk in anonymised data;
- Microdata and output protection;
- Confidentiality of big data and special types of data;
- Access to microdata;
- Methods and tools for tabular data protection;
- Census 2021 - Confidentiality issues;
- Public use files / open data - Future availability of information.

4. The provisional agenda was adopted.

5. The following persons acted as Session Organizers:

Topic (i): Josep Domingo-Ferrer (Universitat Rovira i Virgili);
Topic (ii): Krish Muralidhar, (University of Oklahoma);
Topic (iii): Peter-Paul de Wolf (Netherlands) and Josep Domingo-Ferrer (Universitat Rovira I Virgili);
Topic (iv): Aleksandra Bujnowska (Eurostat) and Annu Cabrera (Finland),
Topic (v): Sarah Giessing (Germany);
Topic (vi): Eric Schulte Nordholt (Netherlands); and
Topic (viii): Eric Schulte Nordholt (Netherlands).

6. All documents for the meeting are available at http://www.unece.org/index.php?id=43931

III. Summary of discussions on substantive topics

A. Topic (i): Utility and disclosure risk in anonymised data

7. This topic was organized by Josep Domingo-Ferrer (Universitat Rovira i Virgili). It included the following presentations:

- University of Oklahoma - Mahalanobis distance-based record linkage revisited;
- Chuo University - Investigating New Methods for Creating Anonymized Microdata Based on Japanese Census Data;
- Universitat Rovira i Virgili - A Methodology to Compare Anonymization Methods Regarding Their Risk-Utility Trade-Off;
- University of Manchester - A Study of the Impact of Synthetic Data Generation Techniques on Data Utility using the 1991 UK Samples of Anonymised Records;
- The former Yugoslav Republic of Macedonia - Measures for information loss in protected data.

8. The following points were raised in the discussions:

- The parameterization of PRAM needs to be carefully considered;
- There is a tension between official statistics and researchers regarding the transparency of masking techniques. It is useful to reverse engineer the masking methods to find the best linking method;
- Data about people and data about enterprises are different and require different approaches. Some National Statistical Organizations (NSOs) do not provide access to enterprise microdata, because it is difficult to anonymize the data;
- A point raised in the discussion was whether different methods are better suited for different types of data. There is no short cut. Whether a method works better depends on how correlated the data is, how much variation there is, and the number of attributes in the data set;
- The participants discussed the status of synthetic data in NSOs. It is complicated and labour-intensive to create synthetic data. There is a risk when using synthetic data that conclusions that are not real are drawn. Synthetic data can be useful for preliminary analysis, but full analysis should be done on real data.

B. Topic (ii): Microdata and output protection

9. This topic was organized by Krish Muralidhar (University of Oklahoma). It included the following presentations:

- Austria - sdcApp - a shiny new GUI for sdcMicro;
- University of Manchester - Evolutionary Methods on Synthetic Data;
- University of Edinburgh - Recognising real people in synthetic microdata: risk mitigation and impact on utility;
- University of Manchester - A unified approach to the assessment of both identification and attribution risks.

10. The following points were raised in the discussion:

- It is useful to have software that evaluates many alternative masking mechanisms using a user-friendly interface and assesses the trade-off between utility and risk;
- There are a number of techniques that have existed for many years. It is important to think how to modify and enhance those techniques to suit current needs.

C. Topic (iii): Confidentiality of big data and special types of data

11. This topic was organized by Peter-Paul de Wolf (Netherlands) and Josep Domingo-Ferrer (Universitat Rovira i Virgili). It included the following presentations:

- The former Yugoslav Republic of Macedonia - Data confidentiality and statistical registers in the Macedonian statistical system;
- Secure Data Access Center - CASD-TeraLab Secure Access to Big Data;
- Netherlands - Location related risk and utility.

12. The following points were raised in the discussion:

- When choosing a solution for statistical data control it is important to think about how the solution might evolve in the future;
- It was clarified that the method developed by CASD is for use in distributed computing environments;
- When looking at location related geographic data, it is possible to protect the map and not the microdata file;
- The protection of other data types was discussed:

  (a) Streaming data: The role of streaming data is not yet clear.

  (b) Network data: There are simple examples of this in NSOs, e.g. linked employee/employer data.

D. Topic (iv): Access to microdata

13. This topic was organized by Aleksandra Bujnowska (Eurostat) and Annu Cabrera (Finland). It included the following presentations:

- United Kingdom - The Five Safes Framework;
- Mexico - Best International Practices Translated into Local Context;
- Canada - Access to Statistics Canada's Microdata;
- Japan - On-site Service and Safe Output Checking in Japan;
- France - Digital act in France: Impact on NSI;
- Hitotsubashi University/Japan - A Proposal of a Simple and Secure Statistical Processing System using Secret Sharing;
- University of the West of England - Lessons learned in training 'safe users' of confidential data.

14. The following points were raised in the discussions:

- When creating a microdata access system, it is important to consider the perspectives of both the NSO and research environments. This will lead to more efficient systems.
- Many organisations give access to microdata if the project is for public good. There is no standard definition of public good. It differs between organisations, depending on how the organisation currently wants to define it.
- It is impossible to track everything that a researcher does when using microdata, organisations must decide to trust them or control them.

- A common approach to training related to confidentiality has been to focus on rules and the consequences of (not) following them. Training that focuses on attitudes rather than behaviour may gain more buy-in from users.
- It is not just the NSO that has a role in training users and researchers in confidentiality. It would be useful if universities taught data handling and data ethics.

E. Topic (v): Methods and tools for tabular data protection

15. This topic was organized by Sarah Giessing (Germany). It included the following presentations:

- Eurostat - Statistical Confidentiality in European Business Statistics;
- France - Center of Excellence on Statistical Disclosure Control;
- New Zealand - Establishing an Automated Confidentiality Service in Stats NZ;
- Finland - Harmonization of the protection of social statistics at Statistics Finland;
- Universitat Politècnica de Catalunya - On using an improved Benders method for cell suppression;
- Australia - Constrained optimisation for tabular suppression in the Australian Bureau of Statistics;
- Canada - Disclosure control that accounts for survey realities: assessing the risk using G-Confid.

16. The following points were raised in the discussion:

- While regulations could be set for statistical disclosure control, there is a preference to have guidelines and recommendations. There have been some excellent examples of the harmonisation of methods across Europe (for example, on the protection for censuses);
- Many countries are using active confidentiality. The use of waivers is compatible with this. To implement waivers, some countries send requests for waivers with the questionnaire, others target enterprises that require a lot of suppressions, and others get waivers from the top contributors;
- Data about people can remain sensitive over time. However, data about business can become less sensitive over time. Perhaps there is some scope to set an expiry data on confidentialised business data;
- There are many tools available from the open source community. Organisations have different comfort levels and success with using open source tools as part of the statistical production process.

F. Topic (vi): Census 2021 - Confidentiality issues

17. This topic was organized by Eric Schulte Nordholt (Netherlands). It included the following presentations:

- Germany - Testing CTA as Additivity Module for Perturbed Census 2021 EU Hypercube Data;

- Norway - The European Census Hub Hypercubes 2011- Norwegian SDC Experiences;
- The United States of America - The Modernization of Statistical Disclosure Limitation at the U.S. Census Bureau;
- Slovenia – SDC considerations of publishing data in the application STAGE;
- United Kingdom - Creation of synthetic microdata in 2021 Census Transformation Programme (proof of concept);
- Nippon Telegraph and Telephone - Secure statistical computation system on encrypted data: An empirical study of secure regression analysis for official statistics;
- United Kingdom - Progress towards a table builder with in-built disclosure control for 2021 Census.

18. The following points were raised in the discussions:

- Differential privacy is a measure of disclosure based on the assumption that the ratio of the probabilities of observing a response to a query in the presence or absence of an individual should be within a small bound expressed as the exponent of epsilon (the security parameter). Using this approach should be considered carefully as some problems have been found with its utility;
- Small values must be masked in some countries. Several approaches are used (removal, introducing uncertainty, etc.). Organisations may choose to approach small values differently based on user consultations and legal issues;
- If a member of the public thinks they can identify themselves in the data (correctly or not), this causes debate in the media and can harm the office;
- The release of perturbed tabular data can cause additional effort in the research data centres to ensure that there is no inconsistency in the outputs. Some countries avoid this by using a sample for their census microdata.

G. Topic (viii): Closing Panel Discussion

19. This topic was organized by Eric Schulte Nordholt (Netherlands), and concerned Public use files / open data and future availability of information. It included the following presentations:

- University of Essex - Public use files – are they obsolete;
- Finance Think - Open data – High impact or struggle to access?
- University of the West of England - Open data: who needs it?

20. The following points were raised in the discussions:

- Is it necessary to register and provide personal information to download the data? The registered person might not be the end-user of the data;
- It is useful for organisations to understand who their users are. This information can help to understand the return on investment. Feedback can be gathered using other mechanisms, such as a feedback form on the website;
- The production of public use files is expensive; therefore it could be worth investigating whether they are used enough to justify their production;

- As it is difficult to predict what users will want in the future, it is better to provide incremental improvements in tools. Otherwise, by the time organizations have developed a tool, the users may have already moved on;
- Open data would be the ideal option for users, but organizations need to balance user needs, data providers and privacy laws;
- Case studies about what has and has not worked are valuable to statistical organisations investigating how they might release open data;
- When there is a breach, the focus is not on the user but on the statistical organisation. Often, we only hear the negative experiences. There are many positive stories of the data being used. These should be shared more widely. It is important to educate the public on disclosure issues.

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Addendum

Report of the Workshop on Harmonising Poverty Statistics

Summary

The Workshop on Harmonising Poverty Statistics was held on 25 September 2017 in Budva, Montenegro.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The UNECE Workshop on Harmonising Poverty Statistics was held on 25 September 2017 in Budva, Montenegro. It was attended by participants from Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Republic of Moldova, Russian Federation, Switzerland, Ukraine and Uzbekistan. The Interstate Statistical Committee of the Commonwealth of Independent States (CIS-Stat), the United Nations Development Programme (UNDP) and the World Bank were also represented. An expert from Oxford University (United Kingdom) participated at the invitation of the UNECE secretariat.

2. The workshop was conducted under the project "Harmonized poverty indicators for monitoring sustainable development in the CIS countries" funded by the Russian Federation. Additional financial support was received from the United Nations Development Account (9th tranche) project "Promoting equality".

II. Organization

3. The following topics were discussed at the workshop:

(a) Comparable statistics for poverty monitoring;

(b) Harmonising data collection in household surveys.

4. The discussion at the workshop was based on presentations and papers that are available on the UNECE website: http://www.unece.org/stats/documents/2017.9.poverty.workshop.html

5. The meeting was held back-to-back with the UNECE Expert meeting on measuring poverty and inequality (26–27 September).

III. Summary of proceedings

A. Comparable statistics for poverty monitoring

6. The session discussed cross-country comparability of poverty measures in response to the needs of the 2030 Agenda for Sustainable Development. For producing poverty-related Sustainable Development Goal (SDG) indicators, countries mainly use household budget surveys, labour force surveys, living standards surveys and administrative records. Indicators, however, produced from the different sources are not necessarily aligned. Moreover, sometimes the data source for an aggregate indicator is not the same as the one used for indicators disaggregated by gender, age, employment status or other characteristics. In this context, the World Bank, Latvia and Azerbaijan presented their activities.

7. To construct comparable microdata across countries, regions, and across years for global monitoring of poverty and shared prosperity as well as for producing other indicators related to welfare distribution, the World Bank has developed the Global Monitoring Database (GMD). The database relies on best available multi-topic data from household surveys.

8. In Latvia, on harmonisation of poverty statistics is based on the EU-SILC framework. The presentation illustrated the challenges that were successfully overcome in introducing the new EU-SILC survey on income and living conditions in Latvia. It was also

pointed out that the statistical office should play a leading role in the development of administrative registers in the country, with particular attention to income registers.

9. In 2015, Azerbaijan conducted a pilot study as part of household budget survey to evaluate the material deprivation in the country using Eurostat methodology. To improve further the comparability of the survey with EU-SILC, Azerbaijan plans to add questions on employment issues, such as the number of hours of work per week, type of contract, and activity calendar for the past 12 months.

B. Harmonising data collection in household surveys

10. The UNECE project "Harmonized poverty indicators for monitoring sustainable development in CIS countries" with the objective to strengthen the statistical capacity for producing poverty indicators is in its second year of implementation. The analysis of the expenditure module of household surveys carried out in this project showed that the countries' data collection on expenditure vary largely in frequency, surveyed goods and services, and level of aggregation. Nevertheless, since the majority of countries use the COICOP classification, this could allow for harmonisation up to a certain aggregation level. Likewise, countries that are not using COICOP classification have similar approaches in identifying expenditures in their questionnaires, which could also support possible harmonization in the future.

11. The income module at aggregated level was found largely comparable across the countries. Most questionnaires define the income structure as follows: income from employment, remittances, property income, from sales, and different allowances and transfers. Countries have a varying number of additional clarification questions on income sources and type of jobs, as well as different practices in addressing social benefits and income from agricultural activities. There are also challenges in applying valuation of transfers in-kind and using different sources for collecting data on household versus individual income.

12. There is no agreed common approach on measuring deprivations, which poses a challenge for harmonising this module. All countries include durable goods, and in particular, the five EU-SILC deprivation items on durable goods. However, the rest of the questions vary significantly across countries from access to internet at home to ability to 'make ends meet'. Housing conditions, access to health and educational services are present in the questionnaires in most of the countries.

13. In the context of the project, the UNECE consultant developed a model set of survey questions on expenditure, income and deprivations for household budget survey. The aim is to establish a common approach to poverty measurement in CIS countries, in line with international standards, and achieve the maximum possible harmonisation under the existing conditions. The questions address essential needs for poverty measurement, including those for monitoring SDGs.

14. The group exercise conducted in the workshop addressed the following issues:

(a) There is no final consensus yet, at international level, with respect to the definition and production of the indicator on *social protection* (SDG indicator 1.3.1). The proposed questionnaire allows for a minimum measurement based on information on the type of social benefits (sickness, education, disability, old age, unemployment, family/children, housing, etc.) and access to social security system. The discussion highlighted the difficulties in producing disaggregated measures by the different vulnerable groups receiving the social protection.

(b) Countries have not reached yet full consensus on the definition of *basic services* and most countries do not have a formally approved list of basic services to be reported at the government level (SDG indicator 1.4.1). The most common international definition of access to basic services includes access to clean water, access to sanitation, access to basic education, health care and quality of food. Participants pointed out the need for clarifying sub-questions, for example, to specify the source of water (tap, well, etc.) when answering the question "access to clean water" as in many cases a direct "yes/ no" answer would be difficult to obtain.

(c) Regarding the proposed *income questions*, countries noted that they include in their questionnaires social transfers in-kind, such as transport services, health care (including medicines), education services and food provision. Although the countries did not have experience with the proposed classification of social protection benefits based on ESSPROS, they do not see difficulties in using it.

(d) On the proposed questions on valuing *food expenditures*, countries preferred the acquisition approach to that of consumption. It was noted that the interviewed person could recall more precisely, what she/he has bought (in a seven-day period) than record what she/he actually consumed. Experience with the consumption approach shows higher non-response rates since the detailed diaries are difficult to maintain.

(e) *Deprivation* questions are important to collect data for the SDG indicators of measuring access to basic services (indicator 1.4.1) and multidimensional poverty (indicator 1.2.2.). Most deprivation items used in EU-SILC are relevant to countries of Eastern Europe, Caucasus and Central Asia. Currently, the household budget survey questionnaires in those countries contain long lists of durables. It was noted that that a shorter list conducive to regional and international comparability is much needed. Conducting the questionnaire on deprivation once a year was seen as sufficient. Regarding housing conditions, questions should be phrased carefully in order to exclude subjective answers and interpretations.

C. Conclusions

15. Next steps in the UNECE project include testing of the model set of questions in a few countries. During this stage, the UNECE consultant will ensure that national practice is considered in the work and that the outputs are applicable in other countries' contexts. Based on the model set, poverty related variables and indicators will be tested. Once finalized, the tool will be shared with the countries and recommended for use in their own practices.

16. Participants expressed satisfaction with the workshop and its relevance to their needs. They appreciated the opportunity to discuss and exchange experiences and expressed commitment for further collaborative work in the future.

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Addendum

Report of the Expert Meeting on Measuring Poverty and Inequality

Summary

The document presents the key outcomes of the Expert Meeting on Measuring Poverty and Inequality, which took place from 26 to 27 September 2017 in Budva, Montenegro. The meeting was organized following a decision of the Conference of European Statisticians in June 2017 and the recommendations of the Seminar on Poverty Measurement, held from 12 to 13 July 2016.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The UNECE Expert Meeting on Measuring Poverty and Inequality was held on 26–27 September 2017 in Budva, Montenegro. It was attended by participants from Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Georgia, Germany, Hungary, Israel, Kazakhstan, Kyrgyzstan, Latvia, Luxembourg, Mexico, Montenegro, Poland, Republic of Moldova, Russian Federation, Slovakia, Slovenia, Sweden, Switzerland, Tajikistan, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, and Uzbekistan. The European Commission was represented by Eurostat. Interstate Statistical Committee of the Commonwealth of Independent States (CIS-Stat), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP) and the World Bank were present. Experts from Oxford University (United Kingdom), University of Antwerp (Belgium) and University of Neuchatel (Switzerland) participated at the invitation of the UNECE secretariat.

2. A number of participants could attend the Expert Meeting thanks to the financial support from Russian Federation and the United Nations Development Account.

II. Organization of the meeting

3. Ms. Trudi Renwick of the United States Census Bureau was elected as Chair of the meeting.

4. The following topics were discussed at the meeting:

(a) Stakeholder involvement in indicator development;

(b) National experiences;

(c) Harmonisation of household surveys;

(d) Methodological issues in measuring economic inequalities;

(e) Measurement of vulnerability to poverty;

(f) Measuring wealth and in-kind transfers;

(g) Spatial patterns of poverty;

(h) Discussion on future work.

5. The following participants acted as Discussants: for item (a) Mr. Matthias Till (Statistics Austria), for item (b) Mr. Giorgi Kalakashvili (National Statistics Office of Georgia), for item (d) Mr. Richard Tonkin (United Kingdom Office for National Statistics), for item (e) Ms. Elena Danilova-Cross (UNDP), for item (f) Mr. Andrew Heisz (Statistics Canada), and for item (g) Mr Thomas Christin (Swiss Federal Statistical Office).

6. The discussion at the meeting was based on papers that are available on the UNECE website.[1]

III. Recommendations for future work

7. The meeting discussed a proposal for future methodological work prepared by the UNECE Steering Group on Measuring Poverty and Inequality. The meeting recommended to pursue methodological work on addressing the challenges of disaggregating national

[1] http://www.unece.org/stats/documents/2017.9.poverty.seminar.html

poverty estimates and asked the Steering Group to prepare terms of reference for a task force on this topic.

8. The meeting recommended that the next UNECE Expert Meeting on Measuring Poverty and Inequality will be organized in the second half of 2018.

9. Participants proposed the following topics for discussion at the 2018 Expert Meeting:

(a) Disaggregation of poverty indicators for monitoring the 2030 Agenda for Sustainable Development;

(b) Harmonization of inequality and poverty measures;

(c) Inclusion of imputed rent and social transfers in kind in the income measure;

(d) Asset-based poverty and inequality;

(e) Coverage of hard-to-reach and potentially disadvantaged population groups in data collection;

(f) Spatial patterns of poverty, considering sampling precision and small area estimation;

(g) Potential for producing individual level poverty measures to assess within household inequalities;

(h) Analysing longitudinal measures of poverty;

(i) Comparable indexes of multidimensional poverty: indicators and data requirements;

(j) Good practices in using register data for poverty and inequality measurement;

(k) Subjective poverty.

10. The Steering Group will elaborate the call for papers for the 2018 Expert Meeting and will ask for volunteers to organize the sessions.

IV. Adoption of the report of the meeting

11. The present report was adopted during the closing session.

12. A summary of the discussion in the substantive sessions of the meeting is presented in the annex of this report.

Annex

Summary of discussions

A. Stakeholder involvement in indicator development

1. This session consisted of presentations from Austria, University of Antwerp, Oxford University, UNICEF and the World Bank. UNICEF provided support with a paper on child poverty in Europe and Central Asia.

2. National stakeholder consultations create a sense of ownership on the agreed indicators and help secure commitment for their production and use. Furthermore, a transparent consultation process increases visibility, improves understanding and builds public trust in statistical production. Finally, yet importantly, the consultations facilitate access to funding and resources.

3. Examples of international initiatives where stakeholder involvement at national level is crucial included the monitoring of SDGs, the development of multidimensional poverty measures and the implementation of the Europe 2020 headline target on combating poverty and social exclusion. Participants noted the important role of international organizations in uniting statistical organisations to speak in one voice.

4. Experiences in involving stakeholders vary widely across countries:

- In Mexico, inter-agency committees have been established for various kinds of statistical issues, in which the participation of agencies is mandatory;
- Canada noted a recently collected input through a nationwide consultation using website questionnaires;
- In the United Kingdom, a public consultation with stakeholders and academia on developing new child poverty measures was successful in underlining the limitation of current and the need for supplementary measures;
- Another example of United Kingdom referred to the participation of the Office for National Statistics as advisor in social connection network involving leaders of political parties in establishing the meaning of poverty;
- In the Russian Federation, the consultation process for a Multidimensional Poverty Index identified a list of deprivations consisting of 39 items in 2015; a year later, the corresponding data was obtained through the living conditions and income surveys.

5. Participants encouraged the process of institutionalisation of stakeholder involvement in developing indicators of poverty and inequality, and the establishment of permanent dialogue with all relevant stakeholders.

B. National experiences

6. This session consisted of presentations from Belarus, Montenegro, Slovakia and Ukraine. The session was supported by papers from Belarus on the assessment of poverty, Slovakia on the data resources potential in poverty measurement, and Ukraine on principles in monitoring poverty and effectiveness of social programmes. Discussion was led by Georgia.

7. The presenters described the various methodologies used in their countries where the consumption approach remains the most widely used approach. They compile comparable poverty statistics in line with the EU statistics on income and living conditions. Belarus also produces estimates of subjective poverty and is currently adopting a methodology for developing multidimensional poverty measures.

8. Developing poverty measures for hard-to-reach population groups is one of the priority areas in Slovakia. Since standard surveys do not always adequately inform on poverty of population groups such as Roma population or migrants, specialised surveys were suggested as a possible solution. It was noted that relative poverty measures for these groups might underestimate the depth of their poverty.

9. Belarus and Ukraine presented their work on indicators of poverty and inequality for SDGs. In Ukraine, a consultation on SDG indicators is under way with about 25,000 people. A national reporting platform is planned for indicators and metadata.

10. Countries emphasised the importance of assessing different dimensions of poverty and measuring the impact of changing social policies. It is also important to consider the coherence of the different data sources as well as the use of statistical-mathematical methods, such as statistical matching.

C. Harmonization of household surveys

11. This session consisted of presentations from Eurostat, CIS-STAT and UNECE. It was supported by papers from Eurostat on the revised content of future EU-SILC and from CIS-STAT on the challenges in harmonising for monitoring progress on SDGs in the CIS countries. The reports of a UNECE consultant on developing a model set of survey questions in Eastern Europe, Caucasus and Central Asia were provided as background documents.

12. EU-SILC is currently undergoing a review of its content and methodology as part of a broader project on modernisation of EU social statistics. The main policy requests concerned the extension of coverage to more areas of social policy action at the EU and national levels, and the increase in cross-cutting analyses.

13. The future EU-SILC will be made up of different elements applied at different frequencies. In the revised EU-SILC, the annually collected variables will provide key information on income, labour, material deprivation, health, childcare, education, housing and quality of life. The three-year rolling modules will be dedicated to four domains of high policy importance: children, labour and housing, and health. The six-year rolling modules aim at monitoring structural phenomena and will cover the topics (provided the ongoing tests are successful) of over-indebtedness, consumption and wealth; access to services; intergenerational transmission of disadvantages and housing difficulties; and quality of life (consisting of well-being as well as social and cultural participation variables).

14. New deprivation items are being proposed to calculate the EU material deprivation rate, currently defined as the proportion of people living in households who cannot afford at least 3 of the 9 deprivation items. The remaining methodological challenges include imputation of missing values and the aggregation and measurement of deprivation status of children. Tests in Latvia show that being out of deprivation is less costly when applying the new deprivation items. Difficulties have been experienced in defining "worn-out furniture" and identifying "all-weather shoes" in the case of the Latvian climate.

15. Building on the practices of EU and some CIS countries, a model list of material deprivations developed by CIS-STAT is being proposed for use in the CIS region. The proposed list will be discussed with the national statistical offices. CIS-STAT is planning to

elaborate recommendations for including a harmonized set of questions on deprivations into countries survey programmes.

16. Methodological guidelines or additional clarifications are needed to produce those SDGs indicators, for which CIS countries currently do not collect data. The review of the current practices on the poverty-related SDG indicators by CIS-STAT suggested that special household surveys could be an important source to collect data on welfare benefits and allowances. The Russian Federation shared their experience in collecting information on participation in social programmes, an important practice for calculating the SDG indicator 1.3.1 on social protection.

17. Participants noted that efforts for harmonising surveys should be strengthened. The household surveys analysis and model set of survey questions developed to address the essential needs for poverty measurement under the UNECE project "Harmonized poverty indicators for monitoring sustainable development" were found valuable. Countries are looking forward to the next steps in the project and some have already volunteered to test the model set of questions.

D. Methodological issues in measuring economic inequalities

18. The session consisted of presentations from Austria, Bosnia and Herzegovina, Mexico and Latvia. The session was supported by papers from Austria on income data sources, Bosnia and Herzegovina on consumption and income indicators, Mexico on income distribution and Latvia on material deprivation. Discussion was led by United Kingdom.

19. In EU-SILC, since the income reference period is an entire one year (usually the previous calendar year), inconsistencies may emerge due to changes in household composition during that year. To address the issue, in Austria, the current monthly household income is being discussed as an alternative approach to assess the financial situation and calculate at-risk-of-poverty rate. The calculations based on EU-SILC show that for surveys that cannot extensively elaborate on the income measurement like EU-SILC, the current monthly income could be a useful alternative approach.

20. Due to underreporting and truncation (households with very large incomes are absent from the sample), it is difficult to accurately measure income from household budget surveys. Analysis in Bosnia and Herzegovina showed that, as in most countries, consumption-based measures of poverty and inequality were lower than income-based measures. Mexico considered other sources, such as SNA and tax authorities' data, to evaluate the above-mentioned underestimation. This method could help generate a new and more realistic version of income distribution.

E. Measurement of vulnerability to poverty

21. This session consisted of presentations from Russian Federation, UNDP, Mexico, Canada, and the World Bank. The session was supported by papers from UNDP on transitions in and out of poverty in Albania, Mexico on data input for multidimensional poverty, and Canada on social exclusion. Discussion was led by UNDP.

22. Recent research of UNDP looked at the dynamics around poverty, disentangling the transition in and out of poverty from the net poverty measure. For Albania, for example, this poverty research reveals that the factors lifting families out of poverty often differ from those factors causing non-poor households to fall into poverty. Falling into poverty is caused by the lack of social protection and social care, lack of assets or a combination of all

the above. Better understanding these different factors is informative to policies trying to eradicate poverty nationally.

23. As movements around the poverty line are quite dynamic, the meeting took stock of different approaches and measures of vulnerability to poverty and at-risk-of-poverty being applied in the region, both from unidimensional and multidimensional point of view. Unlike poverty, which is generally measured on an ex-post basis, i.e. by taking the consumption or income realized, vulnerability to poverty is referring to those who are expected to be poor in the future, and therefore its measure is highly relevant for forward-looking anti-poverty interventions.

F. Measuring wealth and in-kind transfers

24. This session consisted of presentations from Israel, Slovenia, and University of Neuchatel (Switzerland). The session was supported by papers from Israel on poverty measurement, including in-kind transfers and dwellings, and from the University of Neuchatel (Switzerland) on the importance of wealth for measuring poverty and inequality. Discussion was led by Canada.

25. There is a strong need for accounting for educational services as this may lead to underestimating child poverty. In Israel, the inclusion of in-kind benefits from education services in the estimation decreased most the poverty level of households with three or more children.

26. The inclusion of wealth, and particularly housing wealth, in the income-based measures of poverty and inequality would allow considering the well-being of people in the long term. This is especially important in countries with a high rate of house ownership (as in Slovenia) or with high prices on the real estate market (as in Switzerland). In Slovenia, it was found that real estate inequality appears to be much higher than income inequality. In Switzerland, further analysis by age group showed that young adults tend to be deprived in wealth whereas older adults tend to be more frequently income poor.

27. Countries noted difficulties in communicating measures that include housing wealth to the public. United States shared their experience with reporting elderly poverty rates. They have established three thresholds, which they communicated to the public: for renters, for people with mortgage and for owners. This way of reporting was easily comprehended by the public.

28. Income and consumption provide only a partial view of the economic resources that are available to individuals and households. Knowing about the levels of wealth (or debt) is important for a better understanding of the economic well-being of people. Other factors, such as social transfers in kind, are also important for comparing rates and experiences of poverty across countries, as well as for making international comparisons of the level of economic well-being more broadly.

G. Spatial patterns of poverty

29. This session consisted of presentations from the United States and the World Bank. The session was supported by a paper from the United States on geographic differences analysis in housing costs based on their supplemental poverty measure. Discussion was led by Switzerland.

30. Regional price differences lead to similar bundles of goods to be more expensive in one region than in another. Because of this, higher expenditures do not necessarily reflect greater well-being. A price index is a useful way to separate real from nominal income in

order to allow for comparisons. In the case of United States, for example, the poverty thresholds adjustment for the supplemental poverty measure to account for geographic differences in housing costs is based on median rents of a specific type of rental unit, because food prices do not vary that much for the United States while rents do.

31. Spatial patterns of income and consumption poverty are extremely persistence over time and could provide complementary information for policy. Even when poverty rates decline, the spatial agglomeration for the same poor municipalities is likely to remain. In that context, poverty maps are a useful tool for ex-ante evaluations of spatial patterns of poverty and can provide a visual easy to grasp message on the concentration of poor in a country at lower regional levels.

32. Lagging regions have received much attention and concern from public policymakers across the world, but especially in Europe, where substantial European structural and investment funds have been used to reduce regional inequalities and build cohesion. An index of multiple deprivations for small areas was proposed, composed of access to services and economic and social deprivations.

33. Geographic aspects of inequality and poverty have become an important component of poverty research and policy analysis. Significant geographic variation in the rates of poverty may be due to differences in resource endowments, education, health services, and other factors. Consequently, data sets that provide information for the incidence and magnitude of poverty across space have gained an increasing attention

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Addendum

Report of the meeting of the Group of Experts on Business Registers

Summary

The document presents the key outcomes of the meeting of the Group of Experts on Business Registers, which was held on 27-29 September 2017. The meeting was organized following a decision of the Conference of European Statisticians in June 2017 and the recommendation of the previous meeting of the Group of Experts on Business Registers in September 2015.

This report is provided to the Conference of European Statisticians for information.

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I. Attendance

1. The fourteenth meeting of the Group of Experts on Business Registers was held in Paris, France from 27 to 29 September 2017. It was organized in cooperation with the Statistical Office of the European Union (Eurostat) and the Organisation for Economic Co-operation and Development (OECD), and with the support of the European Free Trade Association (EFTA).

2. The meeting was attended by representatives from Albania, Algeria, Armenia, Australia, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Chile, China, Denmark, Egypt, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, India, Indonesia, Ireland, Israel, Japan, Jordan, Kazakhstan, Kyrgyzstan, Latvia, Lebanon, Libya, Lithuania, Malaysia, Mexico, Mongolia, Montenegro, Morocco, Netherlands, Poland, Republic of Korea, Republic of Moldova, Russian Federation, Serbia, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, State of Palestine, Sweden, Switzerland, Tajikistan, Thailand, Tunisia, Turkey, Ukraine, United Kingdom, Uzbekistan and Viet Nam. The meeting was attended by representatives of Eurostat, OECD, the European Central Bank (ECB), the United Nations Statistics Division (UNSD) and Norbert Rainer (independent expert).

3. Luisa Ryan (Australia) chaired the meeting. Jamie Brunet (Canada), August Götzfriend (Eurostat), Hugo Hernandez (Mexico), Pierrette Schuhl (France), Nadim Ahmad (OECD) and Fabio Tomasini (Switzerland) acted as session chairs.

II. Organization of the meeting

4. The meeting was divided into the following sessions:

(a) Session I: Production of business demography statistics and other statistics by linking the SBR with other data sources;

(b) Special Session on the Task Force on Entrepreneurship Statistics;

(c) Session II: The role of the Statistical Business Registers (SBR) in the modernisation of the statistical production process;

(d) Special Session on Country Progress Reports;

(e) Session III: Work on linking SBR to geo-spatial information;

(f) Session IV: Making Better Use of Administrative Data Sources;

(g) Special Session on developing global guidelines on SBRs;

(h) Session V: Registers and globalisation;

(i) Session VI: Quality Measurement and Quality Management Frameworks;

(j) Special Session for countries of East Europe, Caucasus and Central Asia (EECCA) and South East Europe (SEE).

III. Summary of discussions and the main conclusions reached at the meeting

5. Recommendations for future work are given below. The main outcome and summary of the discussions are presented in the annex. The proceedings of the meeting are available on the UNECE website https://www.unece.org/index.php?id=44252.

IV. Recommended future work

6. The following topics were proposed for discussion at the joint meeting of the Group of Experts on Business Registers in 2019, subject to the decision of the Bureau of the Conference of European Statisticians:

(a) The role of SBR in the modernisation and integration of statistical production, including data sharing within and between statistical offices;

(b) The use of administrative data sources, including big data and web-scraping;

(c) Web portals for respondents;

(d) User's perspective on SBR;

(e) Statistical units in SBR;

(f) Globalisation;

(g) Business demography.

7. The results of the 2016 Country Progress Reports that were presented during the meeting should be taken into account when organisation the 2019 Expert Group meeting.

8. In the special session for EECCA and SEE countries participants supported the organisation of a regional workshop to discuss issues of particular importance to the countries of the region. The following topics were suggested: Use of administrative data sources, including cooperation with the register owners; methods to measure and improve the quality of SBR; strategies and practices for maintaining SBR; production of statistics based on SBR; and profiling. The workshop should facilitate exchange of experiences and focus on providing good practices that can be implemented in statistical offices of the region. UNECE should initiate the preparation of the workshop in cooperation with international and regional organisations and countries.

Annex

Summary of the discussion

A. Session 1: Production of business demography statistics and other statistics by linking Statistical Business Registers with other data sources

1. The session was chaired by Jamie Brunet from Statistics Canada and included presentations by Netherlands, Spain, OECD and Mexico.

2. The first two presentations focused on measurement and trends in family businesses, with presentations from the Netherlands and Spain. Both touched on the challenges of defining and obtaining data on the subject, which is of increasing interest and importance as there is a growing recognition that family business behave differently, with potential policy implications. There were slightly different definitions of family business in the two studies, with Spain including a broader set of businesses than the Netherlands. Both presentations showed an impressive integration of multiple administrative data sources (from multiple providers) to produce meaningful data.

3. The presentation from Mexico demonstrated a very effective usage of business dynamics data to accurately predict the number of surviving firms in future years. The level of accuracy attests to the reliability of the data and robustness of the models used.

4. OECD's presentation on motivating business demography indicators highlighted – and gave the group the chance to appreciate – the very significant progress SBRs have made in supporting analysis on trends in business dynamics and the business characteristics and behaviours that can help drive productivity and economic trends. The presentation underscored key policy questions for which SBRs should continue to strive to acquire and maintain frame variables, in particular related to the role firms play in globalisation and trade.

5. The subsequent presentation from the OECD on guidelines being produced for linkage of trade and business statistics invited conference attendees to provide feedback on the proposed outline.

6. In summary, the session topics provided relevant information and stimulated useful discussions on the importance of continuing to improve SBRs as central hubs for analysis of business demography and entrepreneurship statistics.

B. Special Session on the Task Force on Entrepreneurship Statistics

7. Norbert Rainer informed the meeting about the work of the Task Force on Entrepreneurship Statistics that was established by the Bureau of the Conference of European Statisticians in June 2016. The Task Force consists of experts from Canada (Co-chair), Finland, Mexico, the Netherlands, United States, Norbert Rainer (Co-chair), Eurostat, OECD and UNECE.

8. The objective of the Task Force is to develop guidelines on the statistical infrastructure required for the production of business demography and entrepreneurship statistics. The guidelines will provide guidance on how to develop SBRs to support the production of business demography and entrepreneurship statistics and on linking SBRs

with information from other data sources for improving the production of business demography statistics with a view to be used as entrepreneurship indicators.

9. The guidelines will be consistent with and supplement relevant existing materials, in particular the *Guidelines on Statistical Business Registers* (UNECE, 2015), the *Eurostat-OECD Manual on Business Demography Statistics* (Eurostat and OECD, 2007) and the *Business registers – Recommendations manual* (Eurostat, 2010). The target groups of the guidelines are SBR statisticians as well as experts and producers of business demography and entrepreneurship statistics.

10. Participants were encouraged to submit comments and proposals to the draft guidelines presented during the Session, as well as examples of good practices for possible inclusion.

C. Session II: The role of SBR in the modernisation of the statistical production process

11. The session was chaired by August Götzfried from Eurostat and included presentations by Australia, United Kingdom, France, Sweden, Denmark and Slovenia.

12. The Australian presentation gave an overview of the re-engineering of the business register of the Australian Bureau of Statistics (ABS), which is part of a broader transformation program of the ABS. The key feature of the redeveloped business register will be (1) a narrower spine comprised of legal entity identifiers that will be used to produce frames, and link and integrate other datasets, and (2) the use of broader corporate infrastructure, including an enterprise data management warehouse and metadata registry and repository, that will underpin the SBR and all other ABS infrastructure. The new SBR is planned to be used in production at the end of 2018.

13. The Office for National Statistics of the United Kingdom presented their programme to update and transform data collection and production processes. As part of the programme a new SBR is being developed as well as a new legal unit based list of the business population, named the Business Index, which will provide a complete list of legal business entities in the UK. The new SBR will be based on cloud technology and include a data management platform, services for processing data and a new user interface. The new SBR will also provide a spine function enabling linking of business datasets and facilitating the use of administrative and survey data to create statistical outputs.

14. France presented the work on automatic profiling of enterprises for the SBR, which was implemented in 2016. Through the system of automatic profiling some 70,000 enterprises have been created in the SBR encompassing 230,000 legal units. In addition to creating these new enterprises in the SBR, the identification and calculation of key characteristics of the business register (main activity, workforce and turnover) is automatized. From 2017, the continuity of these units will also be derived automatically and used for the identification of enterprises. The presentation explained in detail the algorithms used to derive the characteristics of the enterprises in the SBR based and the algorithms for deciding on their continuity.

15. The presentation by Sweden gave an overview of possible ways for improving the data collection for the Swedish SBR by using a common infrastructure for data provision developed by a group of government agencies. Government agencies and municipalities can use the infrastructure to share information and e-services. The infrastructure includes information about legal and local units that can be shared and updated. A solution for e-ID (login and password) is ready, which will allow direct reporting via the web for all legal and local units. Updates, e.g. on variables of legal and local units can be made continuously

by respondents. Electronic self-reporting is expected to improve quality and timeliness and facilitate increased automatic verification of information.

16. Denmark provided an overview of the electronic online reporting system used for the SBR and other statistics. All Danish businesses are registered in the Danish Central Business Register with a unique identifier. The data collection for all business statistics is managed by a central reporting unit, which maintain a list of business respondents. The list is integrated with the SBR which provides information about name and addresses of respondents. The reporting has been digitalized, so that by today 96 per cent of all survey questionnaires, 450.000 per year, are received digitally. The high degree of digitization is due to the fact that digital reporting is compulsory. Under certain conditions respondents can be exempted from online digital reporting, in which case they will be contacted by regular posted mail.

17. Slovenia presented their work to improve the quality and coverage of the SBR. The statistical office has established central management of local kind of activity units missing from the SBR; activity coding for large units; and treatment of demographic and insolvency events. The new SBR functionalities have been developed in cooperation with survey statistics that uses information from the SBR. The important lesson learned was that close cooperation with surveys statistics is necessary to ensure a successful outcome; close cooperation with users is also required in order to develop the role of the SBR as a backbone for statistical production. With restricted resources it was noted that further developments may have to be undertaken gradually in a stepwise approach.

18. In summary, the session addressed the modernization and reengineering work which is ongoing in many statistical organizations for improving the statistical production processes and the basic statistical infrastructure, i.e. the statistical business registers. The main aims of this reengineering work are to efficiently serve the SBR users with higher quality information, to better use administrative and new/innovative data sources and to upgrade the technical and IT infrastructure. Overall these reengineering efforts should also lead to resource savings in the organizations, to better frames, to better business demography, business and macroeconomic statistics.

D. Special session on country progress reports

19. Masao Takahashi, Statistics Bureau of Japan, presented a summary of the outcome of the 2016 country progress reports. 49 countries/organisations submitted a progress report, of which 4 from Africa, 3 from the Americas, 12 from Asia and the Pacific, and 27 from Europe.

1. Current situation of SBRs in countries

20. The presentation of the current situation of SBRs in countries highlighted the coverage of the SBRs in terms of the number of employees in the units of the SBR, the number of units (enterprises or legal units) in the SBR and the use of geographical coordinates; 52% of the replies indicated that the SBR includes geocoding.

2. Progress and developments in 2016

21. Concerning progress and developments in 2016 the three areas where most work was reported included statistical units, maintenance and quality:

- Statistical units: introducing enterprise groups, handling of big and complex enterprises /enterprise groups by profiling, implementation of automatic profiling

and automatic delineation of enterprises, geo-coding and identification of foreign legal units;

- Maintenance: Redesign of automatic maintenance procedures (addition of new units, reactivating units, assigning inactive status to units), updating of rules for creating group structure, collection of unique identification of foreign units of enterprise groups;
- Quality: development of quality indicators, analysis of non-response; improving timeliness, coherence between the SBR, structural business statistics and national accounts, modernization of data collection methods.

3. Future plans

22. For future plans work on the following issues was the most frequently reported:

- Statistical units: introducing enterprise groups, profiling and delineation of enterprises, developing of e-form for profiling;
- Roles of the SBR: development of business demography statistics, creation of longitudinal version of the SBR, unique identification numbers, applying GSBPM, linking the SBR with trade data;
- Data sources: introducing new variables on globalization (e.g. the nationality of the enterprise/enterprise group, the legal entity identifier (LEI)), validating data from administrative sources, profiling of enterprises, exchange of micro data with other organisations for statistical purposes;
- Maintenance: Reengineering of SBR, changing to platform that supports exchange of data with administrative registers, geo-coding.

4. Main challenges

23. The three main challenges reported were roles of the SBR, statistical units and data sources:

- Roles of SBR: Introduction of geo-coding, meeting the demand for more timely and more detailed data; making better use of administrative data sources and survey data in SBR; production of statistics based directly on SBR; revision of continuity rules of enterprises, scarce resources to develop/improve SBR;
- Statistical units: introduction of enterprise groups, profiling of enterprise groups, delineation of complex enterprises, ensuring coherence between profiling results and SBR units, ensuring a consistent definition of employment, big data;
- Data sources: Administrative data sources apply different requirements for their units, too little information about changes in data sources, access to tax data, exploring new data sources for the SBR, e.g. big data, web-scraping.

24. The summary of the country progress reports was found very useful in terms of providing an overview of current developments, plans and challenges. The summary also gave directions for future work and priorities in the area of SBR. Attempts should be made to further increase country coverage of the progress reports.

E. Session III: Work on linking the SBR to geo-spatial information

25. The session was chaired by Hugo Hernandez from National Institute of Statistics, Geography and Informatics of Mexico and included presentations by China and Switzerland.

26. Switzerland presented their work on improving the management of addresses of the Swiss SBR. To this end the statistical offices plans to re-engineer the processes with the objectives to standardise reporting interfaces, improve and rationalise address management and encourage the automation of repetitive processes. The presentation provided more details on the new model that will be implemented, including on the relations between different units of the SBR and address variables. The objectives include also better cost-efficiency, improved quality of addresses as well as streamlining maintenance activities. It was noted that a strong model helps to support automated processes and that the system should be flexible enough to allow stepwise modifications.

27. China presented the challenges of capturing statistical and geographical information of a very large number of units located in a large territorial area. Each unit in SBR carries information about its address and a code of the smallest statistical area used in the census. As part of the 2013 Economic Census the National Bureau of Statistics (NBS) was able to collect the geographic (GPS, 12-bit) location coordinates of the units included in the census through the use of PDAs. This information was used for updating SBR, so that a geocode is assigned to each unit of the SBR. The NBS has analysed and visualized geospatially enabled information, for example using employees' density map by Census area for studying urban planning. The cooperation with an external company to develop the mapping of geographical location was highlighted as essential for the successful outcome.

28. In summary, linking information of SBR with geographical location is an opportunity to increase the quality of existing outputs of SBR and to develop new outputs and services to meet user needs. The development of information and communication technology facilitates the production of geospatial business information. In developing geospatial business statistics NSOs should consult and cooperate with organisations with specialised knowledge and key stakeholders and user groups.

F. Session IV: Making better use of administrative data sources

29. The session was chaired by Pierrette Schuhl from France and included presentations by Switzerland, Georgia and Egypt.

30. The Swiss presentation explained the use of administrative data for SBR maintained by the Swiss Federal Statistical Office (FSO). Only after 2011, as the national regulation on the unique business identifier came into force, the FSO could go ahead with a wider use of administrative data for the production of business statistics, adding first VAT data and since 2015 customs data. When using customs data the FSO matches the information of the import and export declarations to the enterprises in SBR by using the unique enterprise identifier. The SFO also has access to the monthly snaps shots of the customs database, containing information on all imported and exported goods, their origin, destination, value, weight, means of transport etc. These data are used to complete and improve variables of SBR as well as to specify and correct the perimeter of national and international enterprises.

31. The importance of using administrative data and their quality was illustrated in the presentation by Georgia. The Georgian SBR includes some 25 variables, of which 80% are sourced from administrative registers. The access to data from administrative sources for statistical purposes is granted by the national law on official statistics and by government decrees which oblige other public institutions to cooperate with Geostat. Information

collected from administrative registers includes information about newly registered and liquidated companies, revenues and taxes. The updating procedures are automated to some degree. Information about e.g. address and kind of economic activities is sometimes missing or incorrect, which give problems for updating SBR.

32. The presentation by the Central Agency for Public Mobilization and Statistics (CAPMAS) of Egypt provided an overview of the production of SBR in Egypt. The main use of SBR has been to provide a population of statistical units from which frames and samples for economic surveys can be drawn. The SBR draws mainly on administrative data sources. Egypt is currently conducting the establishment census, which will provide an update of establishments for SBR. Also, the next economic census is being prepared, which will include additional information about the establishments that will be integrated in SBR.

G. Special session on developing global guidelines on SBRs

33. Ronald Jansen (UNSD) informed the meeting participants about the establishment of a UN expert group on business statistics. The objectives of the group would be to 1) prepare global guidelines on SBR based on existing guidelines, notably the UNECE guidelines, and 2) give guidance on issues related to business and economic statistics, taking into account the use of administrative data, the choice of statistical units in the context of globalization and issues related to a large informal sector. The Group will be chaired by Italy. It will commence work in 2017 and is scheduled to have its first meeting in May 2018.

H. Session V: Registers and globalisation

Session Chair: Nadim Ahmad, OECD

34. The session included presentations by France, Eurostat, Tunisia and the European Central Bank (ECB).

35. France presented recent developments of the enterprise group register (Lifi) developed and maintained by INSEE. Information from Lifi on enterprise groups (perimeter and basic business register characteristics) is used as input for the French SBR (Sirus). For the enterprise group register a new application was introduced in 2015. The application includes automatized treatment of input data and running an algorithm that delineates the global group head (GGH) and the group perimeters, based on information about legal units and their financial relationships. For a given enterprise group two perimeters are available in Lifi, depending on the percentage of control. Because of the improvements in the enterprise group register, the statistical system is now better equipped for measuring the globalisation of the French economy.

36. Eurostat provided an overview of the work on the European System of Business Registers (ESBRs), with a focus on the key challenges of globalisation for business registers and business statistics more generally. In this context, the ESBRs aims to address shortcomings in the ESS, e.g. inconsistencies in business statistics due to different roles of national SBRs, lack of harmonised approach in describing cross-border phenomena and data exchanges. Eurostat stressed that the unit enterprise is far more relevant that the legal unit for business statistics: using enterprise as a unit leads has several advantages, namely it facilitates measuring the concentration of the business economic structure and the breakdown by industry, it allows the consolidation of non-additive variables (turnover, sales, purchases), and it simplifies the representation of enterprises' performance.

37. Tunisia presented a very interesting analysis of the performance of the offshore sector using the Tunisian SBR. . The study found that, during the observation period, offshore exporting and importing firms performed worse than their onshore counterparts in terms of level of wages, job creation and productivity: these results represent a useful contribution to the debate on benefits and limits of offshore incentive regimes.

38. ECB provided an overview of the Register of Institutions and Affiliates Database (RIAD) - a business register that collects information from individual members of the European System of Central Banks (ESCB) and national banking supervisors - and introduced plans to allow the incorporation of supranational sources into the database. The register currently includes variables for the identification and stratification of the units, and for demographic developments and relations between the units. An upcoming version will rely on a broader use of non-resident information while future plans include incorporating data from four supranational datasets, i.e. the EuroGroup Register (EGR), the Global Legal Identifier Foundation (GLEIF) data, EU's Transparency Directive (ESMA), and FINREP/COREP dataset.

I. Session VI: Quality measurement and quality management frameworks

39. The session was chaired by Fabio Tomasinia, Switzerland, and included presentations by Australia, Finland, Eurostat, Germany and Canada. The session was dedicated to present examples of quality measurement and quality management. The five presentations could be seen as a follow up work of the chapter 10 of the Guideline on Statistical Business Registers (UNECE 2015) and seen as new examples to add as annexes to this documentation.

40. The presentation of Australia highlighted the need to improve the profiling work but at the same time to have some direct reduction of the operational costs. The aim is to reduce statistical risk through improving the efficiency and effectiveness of the production processes and supporting systems in the profiling program. The profiling program includes three steps: 1) reduction of the initial profiling selections and increasing the use of triggers based profiling; 2) movement of less complex profiling to the ABS Data Acquisition and Provider Team Management; 3) Establishing a team to undertake more complex profiling and editing of annual and quarterly surveys for selected industries.

41. The presentation by Finland provided an example of implementation of a quality assurance framework for data collection. The data collection should be routinely monitored and revised as required. The Data Collection Department at Statistics Finland annually prepares a report on response rate trends and the quality management of direct data collection. These initiatives can help in improving the response rate and the quality of the collected data. The production of reliable statistics requires a wide array of data collection efforts and management. The quality of statistical data collection is a combination of the above-mentioned efforts to monitor and improve the data collection process and tools.

42. Eurostat presented the data quality program for SBRs in the European Statistical System, based on the EU regulation on business registers. Quality assessment of SBR is necessary to insure definitions, data, references described in the methodological manual. The aim is to assess the quality level by setting and monitoring quality standards. The goal of this activity is to increase the quality of EGR data used for the coordination and the standardization of all cross border statistics.

43. Germany provided a presentation of the strategy for implement quality management for profiling enterprise groups. A clear strategy is needed in order to ensure an efficient organization of work and for monitoring the results of the profiling. The profiling is divided in two main groups: 1) Automatic (bottom-up) profiling, and 2) manual profiling, which

again is divided in two groups: light profiling and intensive profiling, both applying a top-down approach. A program is developed in order to support and coordinate the work of profilers based in the regions (Lander) of Germany. The program includes provision of methodological guidance and tools, support of communication and data access, and possibilities for evaluation and improvements.

44. The Canadian presentation provided an overview of statistical quality in the context of SBRs and gave an example of how to measure and mitigate frame errors. The quality management of the SBR should take as starting point the dimensions of quality of official statistics. A two-pronged strategy has been implemented to measure quality and maintain/approve accordingly. The training of the profilers was seen as a critical component in order to improve quality of profiling activity. An interesting proposal is the compilation of a composite indicator for each profiled group that summarises a number of variables in one measure.

45. In summary, work on quality management is still at an early stage in many organisations. Further cooperation and exchanges of good practices in quality management will be useful for countries. Particular challenges will include a strategy for quality management of profiling. Profiling is resource demanding and the resources allocated need to be justified.

J. Special session for EECCA and SEE countries

46. The special session for countries of Eastern Europe, Caucasus and Central Asia and South East Europe was organised as part of the Programme to Support Statistical Capacity Building in Eastern Europe and Commonwealth of Independent States Countries (the ECASTAT programme) and with the support of the European Free Trade Association (EFTA) and the Interstate Statistical Committee of the Commonwealth of Independent States (CIS-STAT).

1. Quality issues in SBR

47. Norbert Rainer presented the main quality issues related to SBRs, covering a framework of data quality, the quality dimensions of the SBR and critical areas for the quality of SBR.

48. The quality of SBR should take into account the quality dimensions of official statistics (relevance, accuracy, timeliness, punctuality, accessibility, clarity, comparability and coherence). It was advised to include four steps when implementing a quality assurance framework: selection of quality indicators, quality reporting, quality assessment and quality improvement.

49. Five areas were identified as critical for the quality of SBR:

- Transformation of administrative units into statistical units;
- Delineation of large and complex enterprise groups;
- Lack of full coverage in market activities (for instance small and micro units);
- Significant errors in the stratification variables (for instance economic activity, size classes);
- Insufficient consideration of the demographic events in the maintenance of SBR.

2. Use of administrative data in SBR

50. Norbert Rainer presented the main issues involved in the use of administrative data sources for SBR. The use of administrative data sources is essential to ensure the coverage of the SBR and to attribute characteristics (e.g. kind of economic activity, turnover, employment/employees) to the statistical units of SBR.

51. With a reference to the UN Fundamental principles of Official Statistics and the European Statistics Code of Practice is was argued that NSOs should choose the data sources with regard to quality, timeliness, costs and burden on respondents.

52. Appropriate statistical procedures would include that NSOs be involved in the design of administrative data to make these more suitable for statistical purposes. NSO should reach out to owners of administrative data source and engage in establishing cooperation with the owners and agree on access to the data. This would also, eventually, include that NSOs would be responsible to engage in work to ensure the quality and suitability of the administrative data for statistical purposes.

53. The Generic Statistical Law on Official Statistics also stipulates that providers of administrative data are obliged to provide NSOs with available data for statistical purposes. Further, the providers of administrative data should consult with the NSO (and other producers of official statistics) before implementing changes that might have effect for the statistical production.

54. In summary, in addition to a comprehensive legal basis, good relations and co-operations with the owners of administrative data sources are important. The use of administrative data also involves getting dependent on the data sources and related risks. Furthermore, relations with government and legislation authorities are needed to ensure that the use of administrative data for statistical purposes is recognised and supported at the political level.

3. Country reports

55. CIS-STAT provided an overview of work on SBRs in CIS countries. The presentation covered the Russian version of the Guidelines on Statistical Business Registers (UNECE 2015) that was translated into Russian with the assistance of CIS-STAT, the role of SBR in producing economic statistics, relationships with the international classifications, monitoring the status of SBRs in CIS countries. Issues for further improvements of SBRs in countries included improving of the coverage of SBRs, identification of statistical units, identification of international enterprise groups and their foreign branches, recording of demographic changes, improving the quality of the SBRs, IT and software improvements and using the SBR for producing of more integrated economic statistics.

56. Azerbaijan presented SBR that have been produced and maintained by the *State Statistical Committee of Azerbaijan* Since 1992. The SBR is updated based on information from a number of different administrative data sources (e.g. the ministry of taxation and the ministry of justice) as well as from statistical surveys. The State Statistical Committee has identified the following steps to further improve the SBR: updating of software used to maintain the register, implementation of a system that allows regional statistical offices to enter data in SBR, increased use of administrative data, and integration of data from different sources.

57. Montenegro gave a presentation about the role of SBR in the modernisation of the statistical production process in the Statistical Office of Montenegro. The SBR is updated based on different administrative data sources including the administrative business register and the tax register and by use of surveys. A unique identification number used by all administrative bodies facilitates linking data from different sources. The Statistical office

plan to modernize SBR to strengthen the role of the register as the backbone in the statistical production by coordinating populations of statistical and administrative units, increase integration and statistical coherence, providing better access to users and reduction of response burden. It is also the objective to improve timeliness of SBR through quicker updates.

58. Armenia presented the SBR maintained by the National Statistical Service, including an overview of the legal framework for the SBR, applied classifications, data sources and the main content of the register. Data sources include both administrative sources and surveys. The SBR is used for conducting surveys as well as for compiling business demography indicators and other summary measures to users. For future improvements the National Statistical Service will work to improve the quality of the indicators of the SBR and providing methodological assistance to relevant state bodies when creating administrative registers.

59. The Russian Federation provided an overview of the ongoing activities to modernize SBR of ROSSTAT based on a development strategy for 2016-2020. The objectives of the modernisation include both methodological issues, e.g. development of profiling methods and business demography statistics, as well as improvements of working processes, including increased use of administrative data, automation of processes, and better user access to the SBR. Through the establishment of a centralized database duplication of information should be reduced and better control of coherence and quality of data can be ensured and it facilitates automation and validation of data. It also implies that e.g. more coherent sampling frames can be produced for survey statistics.

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Item 11 (a) of the provisional agenda

Programme of work of the Statistics subprogramme of the United Nations Economic Commission for Europe

Reports on the work of the Conference of European Statisticians, its Bureau and Teams of Specialists

Implementation of the United Nations Economic Commission for Europe Statistical Programme 2017

Note by the secretariat

Addendum

Report of the Workshop on Implementing Efficiencies and Quality of Output

Summary

The document presents the key outcomes of the Workshop on Implementing Efficiencies and Quality of Output which took place from 27 to 29 September 2017 in Geneva. The meeting was organized following a decision of the Conference of European Statisticians in June 2017.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The Workshop on Implementing Efficiencies and Quality of Output, was held in Geneva, from 27-29 September 2017. It was prepared by representatives of the Capabilities and Communication Modernisation Group. The workshop was attended by representatives from 22 countries: Cyprus, Estonia, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Mexico, Montenegro, Netherlands, Norway, Poland, Romania, Serbia, Slovenia, Spain, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and United Kingdom. The European Commission was represented by Eurostat. Representatives from the following international organizations also attended: World Bank and United Nations Mission in Kosovo (UNMIK).

II. Organization of the meeting

2. Ms. Anna Borowska (Poland) chaired the meeting.

3. The participants adopted the provisional agenda of the Workshop.

4. The following substantive topics were discussed on the basis of presentations and papers:

- Session 1: Opening session;
- Session 2: Managing change and processes;
- Session 3: Lean management;
- Session 4: Risk management;
- Session 5: Quality management;
- Closing: Summary of the workshop and concluding remarks.

5. All documents for the meeting are available at: www.unece.org/index.php?id=45445

III. Summary of the discussion and main conclusions reached at the meeting

A. Setting the scene

Opening addresses and presentations: Ms. Therese Lalor (UNECE) and Ms. Anna Borowska (Poland).

6. During this session UNECE presented the activities of the High Level Group for the Modernisation of Official Statistics (HLG-MOS). The following standards were presented: Generic Statistical Business Process Model (GSBPM), Generic Activity Model for Statistical Organization (GAMSO), Generic Statistical Information Model (GSIM) and Common Statistical Production Architecture (CSPA).

7. The chair of the Capabilities and Communication Group presented activities of the group: Task Team on Capabilities Training, Task Team on Risk Management in the context of agile development and Task Team on Communication. It was stressed that the activities of the Modernisation Committee are open, and it is possible to join them.

B. Managing change and processes

Presentations: Fiona O'Riordan (Ireland), Angela Leonetti (Italy), Maurizio Capaccioli (Eurostat), Eilish O'Sullivan and Marie Creedon (Ireland), Antonio Ottaiano and Pietro Scalisi (Italy).

8. Anna Borowska (Poland) and Marie Creedon (Ireland) organized and chaired the session.

9. The following points were raised during the session:

- Communication is key to help overcome the resistance to change;
- If you are a change leader, you have to be ready for change yourself;
- Work to date on skills registers has focussed on statistical (technical) skills. Soft skills tend to be the second priority;
- Having a centralised learning and development unit is useful to implement the training frameworks. This unit works closely with experts in the subject matter topics;
- Workforce planning is important but is also very difficult to do;
- Learning pathways are a great way to assist with staff retention. Another challenge is to attract the right talent (for example data scientist and data curators). Organisations are developing strong links to universities and in some cases have offered graduate programmes;
- In the skills framework, there are basic, intermediate and advanced levels. A fourth level of potential trainers could be added.

C. Lean management

Presentations: Sylvia Kok-de Vries (Netherlands), Patrizio Di Nicola (Italy), Susana Portillo and Ken Moore (Ireland), Jeremy Visschers, Martha Kevers, Remco Paulussen and Harm Aten (Netherlands).

10. Anne Trolie (Norway) and Remco Paulussen (Netherlands) organized and chaired the session.

11. The following points were raised during the session:

- How to measure smart working, to find balance between being present in office and the output;
- How to apply Lean 6 sigma during the period of transformation – it is advised to start with smaller projects;
- Lean can help employees to be more involved in performance. Implementation and culture change is not easy. The role of the Champion is critical – the more they are involved the better;
- How to manage reduced staff motivation levels when process are made more efficient;
- Advantages of teleworking and facilities can provide secure connection to data.

D. Risk management

Presentations: Aina Silnes and Torgeir Skovdahl (Norway), Barbara Kolasińska (Poland), Claudia Capatina (Romania), Alberto Valencia (Mexico), Fabrizio Rotundi, Alessandra Lucchese, Marco Topzzi and Angela Leonetti (Italy), Jerzy Auksztol (Poland).

12. Fabrizio Rotundi (Italy) and Ben Whitestone (UK) organized and chaired the session.

13. The following points were raised during the session:

- How much does risk management impact on individual behaviours?
- Some countries have the philosophy that every employee is responsible for risk management to some degree - they should be aware and remember about risks.
- Quality reviews can be prioritised to focus on areas where the review will have the biggest impact.
- Example of organisational risks can relate to information security, information systems, and reputational issues.
- What are the differences between strategic risk and operational risks?
- Risks are not just about technical issues. Culture and leadership are as important as business and processes.
- Having a business continuity plan is critical especially in the case disruptive events.

14. This session involved two interactive activities. The first was small group discussions on 'Risk and Quality Management towards and integration' and the second was the Risk Management training, prepared by the colleagues from the Task Team on Risk Management in the context of Agile development

15. During the small group discussions, participants came up with the following suggestions for integrated management system:

- It is important to better understand users of statistics - what they are interested in and what their needs are;
- What is the best approach top down or bottom up? Both approaches are important and should be used for different risks;
- What is the relationship between quality and risk management? If you focus on quality the risk becomes more obvious and easy to identify;
- Risk management could be used to improve statistical quality, if the common system approach is established and integrated tools are introduced;
- Risk management systems – countries have different levels and maturity statuses. All organisations have corporate risks;
- The monitoring of a risk register is very important. Risk and quality teams should cooperate;
- Risk Management could be done according to GAMSO - it will help to allocate resources and funds better;
- Statistical offices need to be innovative and resilient to risks in the statistical production process.

E. Quality management

Presentations: Monika Bieniek (Poland), Zsuzsanna Kovács (Eurostat), and Agustín Cañada, Luisa Muñoz (Spain).

16. Angela Leonetti (Italy) and Remi Prual (Estonia) co-organized and co-chaired the session.

17. The following points were raised during the session:

- There has been quality work 15-20 years in ESS in an organized way.
- There was a discussion in 2016 within ESS, countries said it is unnecessary to pursue certification considering resources it would require.
- It can be difficult to implement quality management recommendations due to the work environment and habits of people. However, when people realise the benefits of the approach it becomes easier.

F. Summary of the workshop and concluding remarks

18. The session was organized by the chair of the Workshop, Anna Borowska (Poland).

19. Proposals identified to consider for future work included:

- An expansion of the training framework to cover soft skills. An example of skills included could be partnerships (Are statistical offices capable of delivering outcomes through partnerships);
- Guidelines on creating organisational resilience. This will describe at how to integrate risk, quality, processes, continuous improvement and innovation work. It should include how to face environmental change and to be agile/adapt to it;
- A showcase of innovations: the super successes and fantastic failures;
- Communication and stakeholder engagement. How do statistical organisations understand the voice of their customer? How should statistical offices react to feedback from stakeholders?

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Note by the secretariat

Addendum

Report of the Expert Forum for producers and users of climate change-related statistics

Summary

The document presents the key outcomes of the Expert Forum for Producers and Users of Climate Change-related Statistics which took place from 3 to 5 October 2017 in Rome. The meeting was organized following a decision of the Conference of European Statisticians in June 2017 and the recommendation of the previous Expert Forum, held from 5 to 7 October 2016.

The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1. The UNECE Expert Forum was hosted by the Food and Agriculture Organization of the United Nations (FAO) and attended by representatives of ministries and national statistical offices of Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Brazil, Canada, Chile, Estonia, Finland, Georgia, Germany, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Mexico, Mongolia, Nepal, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Moldova, Russian Federation, Slovakia, Slovenia, South Africa, Sweden, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland and Uzbekistan.

2. The meeting was also attended by representatives of the Association de l'Education Environnementale pour les Futures Générations (AEEFG), Directorate-General for Climate Action (DG-CLIMA), Eurasian Economic Commission, Eurostat, Joint Research Centre of European Commission, European Environment Agency (EEA), FAO, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Intergovernmental Panel on Climate Change (IPCC), International Center for Environmental Research (ICFER), International Energy Agency (IEA), Midsummer Analytics, Politecnico di Milano and Casa Italia, TU Dresden, Scientific-Information Center of the Interstate Coordination Water Commission of the Central Asia, United Nations Framework Convention on Climate Change (UNFCCC), United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), United Nations Economic and Social Commission for Western Asia (ESCWA), United Nations Environment (UN Environment), United Nations Mission in Kosovo (UNMIK), United Nations Office for Disaster Risk Reduction (UNISDR), United Nations Statistics Division (UNSD), Università degli Studi di Bari Aldo Moro, Università di Bologna, World Meteorological Organization (WMO) and UNECE.

II. Organization of the meeting

3. Nina Holmengen (Norway) chaired the meeting.

4. The participants adopted the provisional agenda of the Expert Forum.

5. The following substantive topics were discussed on the basis of presentations and papers:

- Session 1: Setting the scene;
- Session 2: Climate change-relevant data on agriculture, forestry and land use;
- Session 3: Implementing the set of climate change indicators;
- Session 4: Road map and success stories;
- Session 5: Measurement of extreme events and disasters;
- Closing: The way forward.

6. All documents for the meeting are available at: www.unece.org/index.php?id=43954

III. Summary of the discussion and main conclusions reached at the meeting

A. Setting the scene

Opening addresses and presentations: Pietro Gennari (FAO, Chief Statistician), Nina Holmengen (Norway) and Livia Hollins (UNFCCC).

Keynote speech: Gavin Schmidt (NASA Goddard Institute for Space Studies, Director)

7. The first session was organized by chair of the Expert Forum and chair of the Steering Group on Climate Change-related Statistics, Nina Holmengen (Norway). The session set the scene for developing climate data to respond to user needs, informed the participants of progress since the previous Expert Forum and introduced the topics of the meeting.

8. In the welcome speech, Pietro Gennari, FAO, highlighted the need for increased support to countries on the ongoing reporting processes on the Sustainable Development Goals (SDGs) and under UNFCCC, recognizing a key role of national statistical offices in identifying efficiencies in data production and analysis across both processes, avoiding duplication, while ensuring data transparency, coherency and comparability across countries.

9. In the keynote speech, Gavin Schmidt, NASA Goddard Institute for Space Studies, provided an overview of the climate change problem, sharing insights on how to most effectively produce and communicate data in support of critical policy making and decision processes. Mr Schmidt introduced one of such new data products at the Expert Forum, disseminated jointly with FAO via the new FAOSTAT Temperature Change domain[1].

10. Livia Hollins, UNFCCC, informed the Expert Forum that the Parties to the Paris Agreement are on track to agree on the modalities, procedures and guidelines for the implementation of the Paris Agreement by COP 24 in 2018. This will have implications for the statistical community. The UNFCCC Secretariat will keep the Expert Forum informed of relevant developments.

11. The chair informed participants of the following results of work since the previous Expert Forum:

- In June 2017, the Conference of European Statisticians endorsed the initial set of key climate change-related indicators[2] developed by the dedicated UNECE Task Force, chaired by Italy. Further work to refine the set and develop data sources and methodologies will be discussed at the Expert Forum;
- The UNECE Steering Group updated the example *Road maps to develop official statistics for climate change analysis*[3] based on feedback from the 2016 Expert Forum, and circulated the example to countries to support development of similar national road maps. Countries will share first experience gained when developing a road map at the Expert Forum;

[1] www.fao.org/faostat/en/#data/ET/visualize

[2] www.unece.org/statistics/statistics/task-force/on-a-set-of-key-climate-change-related-statistics-using-seea.html

[3] www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2017/Road_maps_for_climate_change_statistics.pdf

- The Steering Group finalized a *Report*[4] *on countries' progress and challenges in developing climate change-related statistics*. The Steering Group analysed the report when planning the contents of the Expert Forum and other activities;
- The report led to the development of a survey on priorities of international work in climate change-related statistics. To address the highest priorities, the Steering Group drafted a note on *What national statistical offices need to know about inventories?* It will be finalized based on feedback from the Expert Forum;
- UNECE work on climate change-related statistics received broad support at the 48th session[5] of the United Nations Statistical Commission (UNSC) in March 2017. UNECE presented the *CES Recommendations*, set of indicators and the road map at a side event of the Statistical Commission, and the Commission session took note of the global applicability and usefulness of the outcomes produced so far;
- At the request of the Expert Forum, the Steering Group set up a wiki platform[6] with good practices in climate change-related statistics. It contains good examples presented at the Expert Fora so far and other examples on how to implement the *Recommendations on Climate Change-related Statistics*[7].
- The UNECE Task Force on Measuring Extreme Events and Disasters is working in close alignment with climate and disaster risk experts to promote harmonized measurement approaches, concepts and definitions for assessing progress towards the 2030 Sendai Framework for Disaster Risk Reduction.

12. The UNECE Steering Group should follow up on the progress of the negotiations under the UNFCCC relating on the requirements for climate-related data from the Paris Agreement, and keep the network of the Expert Forum participants informed. The Steering Group will work together with UNFCCC to build on the results of the current UNFCCC call for submissions on adaptation and resilience statistics, and advance the development of these statistics. Depending on the outcomes of the Conference of Parties (COP23) in Bonn, the Expert Forum may need to dedicate a full session to the data requirements of the Paris Agreement in 2018.

B. Climate change-relevant data on agriculture, forestry and land use

Presentations: Andrej Kranjc (IPCC), Freier, Martin (Germany), Sushil Kumar Sharma (Nepal) and Francesco N. Tubiello, Mirella Salavatore, Selvaraju Ramasami, Julian Fox, Felix Teillard and Danilo Mollicone (FAO).

[4] www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2017/Countries_progress_in_climate_change-related_statistics.pdf

[5] https://unstats.un.org/unsd/statcom/48th-session/documents/Report-on-the-48th-session-of-the-statistical-commission-E.pdf

[6] https://statswiki.unece.org/display/GPCCS

[7] www.unece.org/stats/publications/ces_climatechange.html

13. Francesco N. Tubiello (FAO) organized and chaired the session focusing on countries' needs and international activities with respect to climate-change relevant data on agriculture, forestry and other land use. These data are critical for evidence-based decision making in national planning and international reporting, in the context of the Paris Agreement and SDGs.

14. The following points were raised during the session:

- Current good practices were shared at the session, for instance on producing data on agriculture, land-use and forestry for the greenhouse gas emission inventories, and on data on impacts and adaptation to climate change in agriculture and forestry;
- Food security, food production, forests and land use are relevant to several SDG targets and indicators and feature prominently in the national emission inventories and Nationally Determined Contributions (NDCs), submitted by countries under the UNFCCC. Work will be needed to further integrate and facilitate the use of these statistics across multiple reporting processes, including by clarifying the underlying definitions of critical indicators, for instance of the indicator on the area under sustainable agricultural practices. This will reduce duplication and enable comparability across countries;
- The emission inventories are well established, but many countries would benefit from further refinement of inventories in agriculture, forestry and land use, especially as a basis for making projections. Many countries derive data mainly from agricultural surveys not designed to serve inventory compilation. The existing surveys do not always fulfil the inventory data needs, and additional data sources may need to be found;
- Typically, the uncertainties of emission estimates from the agricultural and land use sectors are higher than in other sectors. Countries are also using very different emission factors (if not using the Tier 1 approach), so there would be room for methodological development to increase harmonization. The ongoing process of refinement of the IPCC methodological guidelines may provide an opportunity to flag the need for further standardisation of methods in this area;
- One of the largest data gaps in this area relate to the agricultural-economic losses from climate change. A system to monitor these losses would be needed to provide the basis for calculating compensations for farmers;
- There is a high demand for new data on adaptation and resilience, especially for the agriculture, forestry and land use sectors, which are among those most exposed to climate and its variability, and upon which rural livelihoods, income and employment so critically depend. Not all such indicators can be compiled from existing data, and will require additional surveying. One significant data gap in this area relates to the agricultural-economic losses from climate change. A system to monitor these losses would be needed to provide the basis against which to estimate climate damage and, thus, measure effectiveness of adaptation action;
- Participants welcomed the information on the many substantive and forward-looking FAO data tools and activities to support the development of statistical capacity to measure climate change and agriculture.

15. The session confirmed the particular relevance of data on agriculture, land use and forestry as part of climate change-related statistics and the critical role of FAO in supporting their development in member countries. Participants asked the UNECE Steering Group to provide a link between statisticians working on these data and topic specialists, including on environment and economy, and continue to develop these statistics for climate

analysis. Countries were encouraged to bring up good examples of developing data on agriculture, land use and forestry for climate analysis and to share these through the UNECE wiki of good practices.

C. Implementing the set of climate change-related indicators

Presentations: Angelica Tudini (Italy), Olivier Thunus (Luxembourg), Reena Shah (UNSD), Wafa Aboul Hosn (ESCWA), Sergio Castellari (EEA) and Viveka Palm (Sweden).

16. Angelica Tudini (Italy) organized and chaired the session. The session concerned the initial set of key climate change-related indicators identified by the *Task Force on a set of key Climate Change-related Statistics using the System of Environmental-Economic Accounts (SEEA)* and endorsed by the CES plenary session in June 2017. The session discussed how to implement the set of climate indicators nationally and regionally, and use it as a basis for global work. Several national statistical offices and international organizations shared their experience from pilot testing or analysing the indicator set.

17. The following points were raised during the session:

- Results of the 2017 pilot data collection of the initial indicator set allow defining the next steps for the Task Force. Currently, the Task Force has received the results of pilot testing from 11 organizations. It will analyse the outcomes further when all results of pilot testing will be available;
- Participants provided additional feedback on the methodological aspects of the initial set of indicators. The interventions highlighted the need for clear definitions, methodological references and guidance. Consistently with the final report and metadata sheets developed by the Task Force, participants stressed the need to apply dual measurement in the short term for all indicators that can be derived from either SEEA or other data sources. This is typically the case with energy and emission-related indicators. However, the SEEA consistent data will be a priority to ensure comparability with economic data principles, definitions and classifications;
- The UNECE Secretariat reminded all participants that the compilation of the set of climate change-related indicators will not be mandatory, and the Secretariat does not foresee international data collection on the indicator set or international publication of that data. Instead, the set is a recommendation intended to promote the availability of core indicators in an internationally comparable form. Participants suggested developing training materials and workshops to support progress in the area;
- Based on the experience from the pilot testing, countries stressed the need for coordination at different levels.

    (a) The Task Force should coordinate its work on the indicator set with the relevant international initiatives, such as with the SDGs and the Sendai Framework on Disaster Risk Reduction. The set of indicators applies existing methodologies of other internationally agreed indicators, such as SDGs. While ensuring coherence is important, problems arise where methodologies are still under development, i.e. with Tier III indicators.

    (b) The Task Force needs to reach out to the relevant international bodies and groups to find synergies, including to the IPCC Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA).

(c) Nationally, the statistical offices should coordinate among the various actors involved in the calculation and dissemination of the set of indicators.

- The set of indicators will be tested and extended globally and to take into account the specific challenges of different regions. ESCWA tested 21 indicators (mostly from the UNECE set) in the Arab countries; ESCAP is working on a set of headline indicators for small island countries; and ECLAC will conduct a pilot implementation in its region;
- UNSD will launch the development of a global set of climate change-related indicators based on the initial set of indicators, developed by the UNECE Task Force. UNSD, in consultation with UNECE and UNFCCC, will report to the UN Statistical Commission about this work in March 2018. The work at the global level may also raise a need to revise the initial set of indicators to take into account specific country needs;
- The main methodological weaknesses of the indicator set relate to the adaptation and mitigation indicators. Countries asked for methodological development of these indicators and support to their capacity development in the compilation of the indicator set;
- The Task Force will follow up the work on the set of indicators in other regions and globally as these may bring up needs to adjust the initial set of indicators, both in the number and the individual indicators selected, and due to different policy priorities and regional diversities.

18. Participants appreciated the sharing of experience on the pilot testing of the set of indicators and asked the UNECE Task Force to continue its work to refine the indicator set and develop data source and methods taking into account feedback from the pilot testing and the Expert Forum. Participants asked UNECE to support the implementation of the set of indicators in countries and other regions. The next Expert Forum should discuss initial methodological guidance and refinements to the indicator set.

D. Road map and success stories in the progress towards better climate change-related statistics

Presentations: Johanna Laiho-Kauranne (Finland), Marko Pavlic (Slovenia), Kanykey Orozbaeva (Kyrgyzstan), Yurik Poghosyan (Armenia) and Ricardo Fernandez (EEA).

19. Rob Smith (Vice Chair of the UNECE Steering Group) organized and chaired the session to discuss countries' progress in developing climate change-related statistics through road maps and other success stories. Road maps support countries in identifying national priorities and practical steps for improving climate change-related statistics in line with the *Recommendations on Climate Change-related Statistics*. Success stories in the development of climate change-related statistics enable mutual learning.

20. The following points were raised during the session:

- Moving from research to regular statistical production requires commitment from policy makers and the government. In some countries, climate change-related statistics are not yet part of the regular statistical production and a clear mandate is lacking. Preparing a road map for the development of climate change-related statistics with the relevant partners has been helpful for achieving an engagement for the development of these statistics;
- Cooperation between all departments relevant to climate change (national statistical office, environment ministry, energy ministry, etc.) is necessary to ensure successful

development of roadmaps for climate change-related statistics. As far as possible, cooperation should be based on formalized agreements between departments and these formalized agreements should be reviewed regularly to ensure they remain relevant;

- The national statistical office cannot be seen as the only provider of data in a roadmap for climate change statistics. The roles of other agencies (such environment ministries) must be recognized.
- The amount of time and effort required to elaborate a roadmap for climate change-related statistics should not be underestimated. The main difficulty is selecting priorities, in which a jointly prepared road map can help.
- Development of roadmaps should be undertaken at the highest level possible to ensure buy-in of stakeholders and the commitment of adequate financial and human resources to permit successful implementation of the roadmap.
- Climate change-related statistics need to be developed in a way that supports multiple uses of the data. Development work should also take into account existing data and reporting systems, such as the Land Parcel Identification System.
- The national statistical offices should be formal partners in national emission inventory systems and the changes to monitoring, reporting and verification under the Paris agreement and IPCC guidelines offer good opportunities for countries to consider greater involvement of national statistical offices in inventory compilation and review processes. In some countries, the legal setting has been strengthened to enable the provision of confidential data from the statistical office to the inventory compilation.
- Participants asked to include in the paper on *What national statistical offices need to know about inventory methodologies* a discussion about the differences between official statistics and inventory compilation in terms of publication strategies, reporting obligations and quality reviews and criteria.
- Sector-specific workshops between greenhouse gas inventory compilers and statistical offices should be considered as an example of 'best practice' that leads to greater collaboration and data quality improvements, improving overall emission estimates. Such workshops could start from the energy sector.

21. Participants encouraged the development of national road maps or action plans to focus the work to improve climate change-related statistics. Countries agreed on the importance of identifying concrete priorities that are achievable in the short-term. The Steering Group encouraged participants to select at least one priority development action for the next year, and report to the Expert Forum in 2018 to share the results. Participants considered the presentations on national road maps inspiring for their national work. They considered the note on *What national statistical offices need to know about emission inventories* as a very useful tool that should be widely distributed among statisticians. The Steering Group will finalize the note taking into account the feedback received and will continue to support countries' efforts in the development of climate change-related statistics and road maps for that purpose.

E. Measurement of disasters and extreme events

Presentations: Angela Ferruzza and Giovanna Tagliacozzo (Italy), Michael Nagy (UNECE), Rikke Munk-Hansen (ESCAP), Marc Gordon (UNISDR), Galimira Markova

and Piero Conforti (FAO), Jesarela Lopez (Mexico), Yurik Poghosyan (Armenia) and Hakan Yazicioglu (Turkey).

22. Angela Ferruzza (Italy) and Piero Conforti (FAO) co-organized and co-chaired the session. It discussed the findings of the UNECE Task Force on Measuring Extreme Events and Disasters, considered the roles of different organizations in providing these data and the kind of improvement and capacity building needed to support statistical offices in data provision. The session reflected on the collaboration needed to measure progress towards the 2030 Sendai Framework, and shared national case studies in compiling these data. FAO highlighted its work on measuring the impacts of extreme events and disasters on crops, livestock, forestry and fisheries, in support of the Sendai monitoring framework.

23. The following points were raised during the session:

- Participants had a common understanding that statistics on extreme events and disasters are relevant in all phases of disaster-risk management, even though there are several challenges in providing the needed information in the required quality, detail and for the area of interest.
- National statistical offices that are at an early stage of developing or producing statistics on extreme events and disasters can benefit from an exchange with countries with more experience.
- The country examples showed that, depending on the national circumstances, national statistical offices could take up additional roles in support of national disaster-risk management. This could be, for example coordinating the national Geospatial Information System, having a formalized role in an emergency situation protocol or hosting a national disaster database.
- Compiling statistics on extreme events and disasters requires close cooperation and coordination among different governmental bodies, non-governmental organizations and research. In addition, local authorities play an important role in informing disaster risk management and should be considered part of the institutional environment.
- Participants stressed the importance of data sharing agreements and the usefulness of open data policies in emergency preparedness and early response to immediate information needs.
- Regular production of statistics on extreme events and disasters needs to be based on the national statistical law and the statistical work programme. Many countries need to consider updates to their legal framework in this regard.
- Countries are looking forward to the outcomes of the work on the Sendai Process, the Asia-Pacific Expert Group on Disaster-related Statistics and the UNECE Task Force on Measuring Extreme Events and Disasters. The outcomes will support the harmonization of definitions and classifications, and the production of these statistics through practical guidance.
- An important role of national statistical offices is to contribute to valuing disaster losses in physical and monetary terms. Statistical offices' data could also help to measure the impact on wellbeing.

24. Participants asked the UNECE Task Force on Measuring Extreme Events and Disasters to continue the close collaboration with UNISDR and the Sendai Process. The Task Force will present its draft recommendations for feedback at the next Expert Forum. Participants asked UNECE, FAO and ESCAP to support their member countries in

measuring extreme events and disasters and developing the availability and usefulness of official statistics for this purpose.

F. The way forward

25. The session was organized by the chair of the Expert Forum, Nina Holmengen (Norway). The session discussed the conclusions of the meeting highlighting areas for further work and next steps in implementing the *Recommendations on Climate Change-related Statistics*.

26. UNECE will prepare the next Expert Forum in consultation with the Steering Group on Climate Change-related Statistics. The following three topics were voted as possible new topics to be considered at the next Expert Forum:

- Statistics for climate adaptation (45 per cent of participants supported this topic).
- Use of geospatial data and earth observations with climate statistics (35 per cent).
- Quality of climate change-related statistics (32 per cent).

27. The UNECE Steering Group will select one of the above topics for discussion. In addition, the Expert Forum may discuss countries' progress in developing climate change-related statistics and the preparation of national road maps, updates on the reporting requirements agreed in Bonn after the Paris Agreement, methodological development of the set of climate change-related indicators and draft recommendations on the role of national statistical offices in measuring extreme events and disasters.

28. As a conclusion, the UNECE Steering Group and Task Forces will carry out the following activities as requested by participants of the Expert Forum in the previous sessions:

- Follow up on the progress of the negotiations on the UNFCCC reporting requirements after the meetings of the Conference of Parties (COP), and keep the network informed.
- Explore opportunities for engagement with UNFCCC and IPCC processes, in particular in the area of measuring adaptation, mitigation and resilience;
- Continue close collaboration with FAO to develop data and statistics on climate change in agriculture, land-use and forestry through the UNECE Steering Group of which FAO is a member;
- Develop capacity building activities on climate change-related statistics in cooperation with all relevant international organizations and Regional Commissions;
- Develop training for national statistical offices and compilers of emission inventories, with partners, e.g. workshop with IEA and finalize the paper on *What national statistical offices need to know about inventories*;
- Continue to promote the use of the *CES Recommendations* and:
    a. Support countries wishing to develop national road maps;
    b. Develop and maintain the new wiki repository of good practices.
- Develop methodologies for the implementation of the set of climate change-related indicators and refine the set of indicators through the UNECE Task Force, and in coordination with other organizations;

- Develop the role of statistical offices in measuring extreme events and disasters through the UNECE Task Force, and in coordination with other organizations.

29. The Expert Forum encouraged all participants, each in their current capacity, to:

- Engage with stakeholders to discuss important data needs of international and national policies and climate reporting by:
    a. Establish a contact with disaster risk experts in the country to identify key data needs for official statistics;
    b. Engage with the national UNFCCC focal point and IPCC focal point to discuss how national statistical offices and other data producers can best contribute to their work;
    c. Rely on the narrative[a], prepared by the UNECE Steering Group, to demonstrate the value of official statistics for climate change analysis.
- Review the set of climate change-related indicators nationally with the relevant data producers. Share your experience with the UNECE Task Force to provide input.
- Prepare a national road map or an action plan for the development of climate change-related statistics. Start by assessing the current situation and selecting at least one priority action for 2017-2018. Share your experience at future Expert Fora.

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[a] www.unccc.org/files/admin/DAM/stats/documents/sustainable_development/Growing_need_for_official_statistics_in_measuring_climate_change.pdf

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Addendum

Report of the Workshop on the implementation 2008 SNA: Consistency between national accounts and balance of payments statistics

Summary

The document presents the key outcomes of the Workshop on the implementation 2008 SNA: Consistency between national accounts and balance of payments statistics which took place in Minsk on 3-5 October 2017. The workshop was prepared following the recommendations of the Group of Experts on National Accounts (May 2016, Geneva) and the Workshop on the implementation the System of National Accounts 2008 and linkages with Balance of Payments Manual and the Government Finance Statistics Manual (Istanbul 2015).

The report is submitted to the Conference of European Statisticians for information.

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I. Introduction

1. The workshop on Implementation and consistency between the System of National Accounts 2008 (2008 SNA) and the Balance of Payments Manual, 6th Edition (BPM6) was held in Minsk on 3-5 October 2017. It was jointly organized by the European Free Trade Association (EFTA), Eurostat and UNECE, in cooperation with the European Central Bank (ECB) and the National Statistical Committee of the Republic of Belarus (Belstat).

2. The Workshop was attended by participants from the National Statistical Offices (NSOs) and Central Banks from the following countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Montenegro, Netherlands, Norway, Republic of Korea, Republic of Moldova, Russian Federation, Serbia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Ukraine and Uzbekistan, and representatives from the Interstate Statistical Committee of the Commonwealth of Independent States (CIS-STAT).

II. Organization of the workshop

3. The workshop was prepared following the recommendations of the Group of Experts on National Accounts (May 2016, Geneva) and the Workshop on the implementation the System of National Accounts 2008 and linkages with Balance of Payments Manual and the Government Finance Statistics Manual (Istanbul 2015).

4. Following the priorities expressed by countries in their national implementation plans for the 2008 SNA, UNECE and partner organizations have already organized two workshops aiming to strengthen the institutional cooperation between national statistical offices, central banks and ministries of finance (Istanbul 2013 and Istanbul 2015). The objective of this Workshop was to go a step further and discuss the main challenges and good practices in ensuring consistency between national accounts and balance of payments (BoP) statistics as well as review in more detail specific methodological and practical issues that are of interest to national accounts and BoP compilers.

5. The workshop was part of the regional initiatives to support the implementation of the System of National Accounts 2008 (2008 SNA) in the countries of Eastern Europe, Caucasus and Central Asia (EECCA) and South East Europe (SEE).

6. The following substantive topics were discussed on the basis of presentations and supporting documentation:

(a) Importance of consistency between national accounts and balance of payments statistics;

(b) Implementation of the 2008 SNA and BPM6: national practices in ensuring coordination, data quality and consistency;

(c) Selected methodological and practical issues:

- Processing and merchanting (including data sources);
- CIF/FOB adjustments;
- Remittances;
- Financial intermediation services indirectly measured (FISIM).

(d) Conclusions and way ahead.

7. All materials of the workshop are available at: http://www.unece.org/index.php?id=43930.

III. Summary of the discussion and main conclusions reached at the workshop

A. Importance of the consistency between national accounts and balance of payments statistics

8. The session was based on presentation by Statistics Netherlands, Eurostat and ECB.

9. There are many important uses of macroeconomic statistics. They are used for monitoring and analysis of the development of the economy, forecasting and budget projections and policy formulation. Due to increasing globalization and interlinkages of the economies, statistics on the rest of the world are getting more attention and importance for both national and international users.

10. After the latest revisions, BPM6 and SNA are fully harmonized. While BoP and national accounts statistics serve different purposes and therefore provide different presentations of the external sector, it is important that the main aggregates measuring the development of the economy are consistent and telling the same story. However, differences still persist in many countries due to different data sources, timeliness, different compilation techniques or interpretation of the standards and lack of inter-institutional coordination. This may confuse users and question the relevance of external statistics. Thus, there is a need to enhancing the coordination among the statistical community.

11. The participants agreed that full consistency is difficult to achieve, and that revision and vintage bias could partially overstate the problem. Furthermore, consistency is only one of the aspects of quality. Nevertheless, analyzing the reasons for discrepancies, and ensuring close cooperation and coordination of the production of BoP and national accounts statistics are a prerequisite for providing users with relevant, consistent and high quality data.

12. Users do not necessarily understand well the content of the indicators and all the changes introduced with the new standards. Educating users, explaining the rationale behind the revision and the issues around data quality should also be part of the work of statistical offices and central banks.

B. Implementation of the 2008 SNA and BPM6: national practices in ensuring coordination, data quality and consistency

13. The session was based on presentations by Belarus, Netherlands, Norway, Republic of Moldova, Russian Federation, Turkey, CIS-Stat, Eurostat, ECB and UNECE.

14. Participants reviewed the quality frameworks applied for national accounts and BoP statistics and the reasons for inconsistencies between the two datasets in the EU. There are two organizational set ups for producing external sectors statistics in the EU: centralized (one institution compiles both statistics) and decentralized (responsibility for compiling BoP and sector accounts are split between central bank and statistical office). In the latter case, different levels of coordination are possible. The main reasons for discrepancies that were identified by Eurostat and ECB include the vintage and revision bias, different data sources (sometimes having different observation units, coverage, quality, etc.), different compilation practices (estimation methods, balancing and reconciliation procedures,

coverage adjustments), institutional arrangements and methodological differences. When analysing discrepancies by component, services seem to be the major source.

15. The EECCA and SEE countries follow the decentralized model for producing BoP and (non-financial) sector accounts. The BoP is produced by central banks, while non-financial accounts are responsibility of the statistical offices. Financial accounts are still in experimental phase in most countries of the region and they appreciate the possibility to learn more from the experience of the more advanced offices. It should also be noted that full set of sector accounts are produced only on an annual basis in many countries. Further, in some countries BoP is already compiled according to BPM6, while national accounts continue to be published according to 1993 SNA.

16. UNECE conducted a survey among the participating countries. The survey revealed that based on discussions in the previous workshops and the regional recommendations for the implementation of the 2008 SNA, countries had developed different inter-institutional agreements or set up working groups involving national statistical institutes and other national institutions collecting and compiling macroeconomic statistics (mainly central banks and ministries of finance). Nevertheless, the agreements and working groups mainly cover data exchange and less frequently deal with methodological issues.

17. The experience of those countries having working groups dealing also with methodological and consistency issues proved them very useful for identifying concrete steps for further strengthening the cooperation and improving data quality. Another aspect of consistency that was addressed in the session was the bilateral reconciliation with partner countries. Such exercises also play an important role for increasing the quality of the data.

18. The following points and recommendations were made during the group discussion:

- Consistency, as a dimension of quality, should be addressed in a more holistic way. Coordination of the compilation process plays a major role there. The analysis of the differences and plan for improvements should be a joint effort of both central banks and statistical offices;
- The new international standards, BPM6 and 2008 SNA, are consistent, but the terminology and the language they use are not completely harmonized. Furthermore, they often leave room for some flexibility and, therefore, allow different interpretation by compilers. The work on reaching a common understanding is currently done at the national level. It could be considered if a review and harmonisation of terminology could be done at international level;
- At the national level, compilers need to have a common understanding of the goals to be achieved, agree on terminology, and discuss and decide on data sources and methods (preferably as part of inter-institutional agreements or working groups). They also need to speak common language and know each other's processes and specific requirements e.g. sector accounts are less frequent the BoP, but require more resources to produce, reconcile and publish. Building this understanding is part of the harmonization process as well;
- Consistency cannot be achieved by looking only on aggregated levels. In addition, while many central banks have moved quickly and introduced BPM6, a lot of methodological work and improvements are still going on at the national accounts side e.g. illegal activities. There is a need to look into each individual item, review the estimates and synchronize them;
- The countries from the region are at different stages of implementation of the standards and have quite limited resources devoted to methodological work. This is why a good way forward would be to focus first on one vintage of estimates that

include the most detailed and reliable data sets e.g. annual data and try to analyse and eliminate (reduce) discrepancies for these series;

- Historical inconsistencies are difficult to resolve. Countries should take a pragmatic view and start with the more recent and reliable data sets;
- During the transitional period of implementing the BPM6 and 2008 SNA, some countries have taken the decision to publish estimates in both old and new versions. Even when the new versions of both standards are in place it will take time to resolve all differences. User's perspective should be taken into account and appropriate documentation should be published. Agencies should work together on common releases explaining the reasons for inconsistencies. Differences in the direction of growth are most difficult for users to understand;
- In many countries, coordination is based on legal documents and regulations, so in order to enable consistency work they need to go back to official agreements.

C. Selected methodological and practical issues

19. Based on the UNECE survey and the interest expressed by countries, the workshop reviewed four areas in more detail: recording of merchanting and processing abroad, cif/fob adjustments, financial services indirectly measured and remittances.

20. The discussion on merchanting and processing abroad was based on presentations by Eurostat, Netherlands and Ukraine. The new recommendations based on recording according to the change of ownership principle have been very difficult to implement in countries, as traditional data sources do not provide suitable data and many adjustments are needed. Legal aspects also may need to be resolved both for sharing the data at national level and because sometimes the necessary information could be available in units that are not in the jurisdiction of the compiling country. Close cooperation between the central bank and the statistical office is crucial in order to agree on the adjustments, and cross check against all available data sources.

21. Norway and Albania presented their methods for estimating cif/fob adjustments. Both countries are using detailed data from customs declarations on value of imported goods, information on the transportation cost, nationality of the transporter(s), etc. to calculate average coefficients by product group. They also try to compensate for missing values and errors. The country circumstances and customs documents may differ, yet it is very useful to exchange information on questionnaires, methods for compiling the adjustments and software used between countries. The complexity of the adjustments (multiple carriers, different split between national and international transporters, and implicit adjustment for errors or non-observed economy) raises the question of international coordination i.e. how to arrive at coefficients that are consistent and do not lead to asymmetries with partner countries.

22. Presentations by Eurostat, The former Yugoslav Republic of Macedonia and Tajikistan introduced aspects related to the measurement of remittances. It was noted that International Transactions Reporting System (ITRS) is one of the major data sources for formal remittances. Countries also conduct household surveys to further analyse private transfers and their structure and improve their coverage. Cash differences are also worth investigating, though they may not be due only to cash transfers but to other items as well.

23. The discussion on FISIM was based on presentations by ECB and Serbia. The example of Serbia illustrating how a cross-border loan-by-loan database could help in dealing with imports and exports of FISIM was recognized very useful for other countries.

Specific items discussed were selection of reference rate, negative FISIM and negative exports of FISIM.

24. Other items in which participants showed interest were international constructions projects, exchange of primary data for foreign direct investments, incorporation of estimates for illegal activities, etc.

D. Conclusions and way forward

25. The EECCA and SEE countries have already progressed well with the first phase of implementation of the 2008 SNA – the issues that affect the measurement of GDP and related aggregates. Now many of them are focusing on sector accounts, including financial accounts. In this respect, the participants welcomed the efforts of the workshop organizers to bring together the institutions responsible for BoP and national accounts. It was highlighted that such forums are very beneficial for strengthening the institutional cooperation in countries. They also increase the understanding of the requirements for production of the different statistical series.

26. The implementation of the new standards, BPM6 and 2008 SNA, is very challenging for all countries. This is why experience and good practice on institutional arrangements, data collection and exchange, dealing with concrete methodological issues and practical solutions to overcome obstacles should be shared. Open communication and discussion between these two areas of statistics could help learning and enriching our understanding of the issues. International organizations could also help by developing or strengthening the practical guidance.

27. Countries are encouraged to develop further this cooperation at the national level, enforcing the role of inter-institutional working groups and reviewing agreements. In view of the resource constraints, they should adopt a step-by-step approach, focusing first on the main data sets and on the areas where they have largest problems. Further, the following common threads emerged in the panel discussion:

- Consistency between BoP and NA is important. Compilers need to work on that, but also need to invest in the underlying statistics/data;
- Cooperation between the involved institutions is instrumental for achieving consistency;
- Communication is a prerequisite to achieve effective cooperation, but also communication with our users needs attention;
- Classifications and common metadata has to be agreed upon;
- Compliance with the guidelines, statistical laws, publication deadlines/obligations should be sought;
- Completeness describing the economy in BoP and NA implies covering all transactions, including the non-observed economy. Compilers should lighten their methods and make best estimates based on the scarce data available;
- Common understanding of methodological guidelines and how they are applied to the accounts in your country is important;
- Consultancy and international support are needed. Specific and new cases may be difficult to interpret, therefore, it would be useful to have an opportunity to consult your international colleagues.

- Counterpart information should be used where possible to improve data quality e.g. trade data;
- Choices have to be made. Not all improvements can and should be done at the same time. The compilers of BoP and national accounts should agree on the top priorities for their country, solve those issues, evaluate, learn and take up the next priorities;
- Capacity and cost should be evaluated when setting the priorities;
- Coffee breaks also play a role: networking and exchanging experiences and ideas with colleagues in other countries is key.

28. The participants noted that while such permanent forums exist for the EU and OECD regions, the EECCA and SEE countries have no suitable platform where the producers of BoP and national accounts could meet on a regular basis. They asked UNECE and the partner organizations to consider organizing similar workshops in the future. Possibility to attend the meetings of the Group of Experts of National Accounts should be provided to central banks, when the topics on the agenda are of their interest.

29. Similar workshops dealing with institutional cooperation and other challenges related to sector accounts, including financial accounts, should be considered in the future. Such workshops should bring together other relevant institutions or departments e.g. those responsible for government finance statistics or monetary and financial statistics, etc.

30. The participants also requested support in addressing the links between business statistics and national accounts, including on redesigning questionnaires and data collection to measure properly transactions related to multinationals and global production.